VOLUME LXXI OCTOBER, 1914 NO 2.

AMERICAN JOURNAL OF INSANITY

A CRITICISM OF PSYCHANALYSIS.*

BY CHARLES W. BURR, M. D.,

Professor of Mental Diseases, University of Pennsylvania, Philadelphia, Pa.

Let me confess at the outset that my mental attitude, my bias, toward Freudian psychanalysis is not, at the present time and after study and investigation, sympathetic. I have tried to be fair, to listen to all the arguments with an open mind and with a desire to learn some new thing which is really true, but unconsciously as well as consciously, the habits of thought created by inheritance and by training along lines which make one expect to discover truth by the use of the senses, by the microscope and the test tube, and by the clinical study of people and on the facts gathered, basing an explanation by the use of reason, rather than of fancy, makes me tend to be sceptical about the value of the newer psychology.

In order to understand what psychanalysis is, what it is based upon, the method of its application, and its therapeutic value, it is necessary to study the system of psychology of which Dr. Freud is the foremost advocate. I shall, therefore, briefly describe the theories of Dr. Freud and then discuss their therapeutic application. It is somewhat difficult to be brief, because Freud himself is not brief. He nowhere gives a short, clear cut statement of his opinions, and one must read many pages in several books and many papers in order to discover them. He sometimes uses words in an uncommon sense. He does not exhibit the clarity of expres-

* Read at the seventieth annual meeting of the American Medico-Psychological Association, Baltimore, Md., May 26-29, 1914.

sion so charmingly manifest in almost all French and a great many English writers, so that sometimes his meaning is obscure. One is impressed by his obscurity, due perhaps to his careless literary style, rather than by the abstruseness of his matter, but his ideas are so unusual that they are well worth the trouble of discovering and the question of the causation and treatment of the psychoneuroses is so important as to be worth a large amount of labor. A large literature has grown up about Freudism, most of which has been contributed by the not numerous, but very enthusiastic, disciples of its originator. Its opponents have not indulged very largely in writing. Dr. A. A. Brill, of New York, is probably the American protagonist of the school of Freudian thought; at least he seems to be the American who has written most about it. Dr. Ernest Jones, of Toronto, has devoted much time to writing entertaining, though to persons of a thoughtful cast of mind, the much-abused conservatives and reactionaries, somewhat startling papers. The entire pro-Freudian literary output is rather startling to readers who have been trained to expect evidence rather than assertion in papers discussing scientific problems. Dr. Bernard Hart, who does not write as a disciple, has given in "Brain" for January, 1911, a very fair account, scientific in tone and free from bias, of the fundamental ideas of the newer psychology and I have quoted largely from him in the earlier part of this paper. My knowledge as to what constitutes the doctrines of Freudism is based not only on the writings of Freud, but also on those of his followers. There does not seem at the present time to be the unanimity of opinion among the apostles of the school that formerly existed, but there is not time to do more than give Freud's own views. I have tried to do this accurately.

Freud's two fundamental ideas are, first, that mental processes, like all others, are ruled by law; that nothing mental happens from chance; and, second, that they can be explained by scientific laws involving psychological terms only. The second idea makes necessary the assumption of the existence of unconscious mental acts and processes, indeed of an unconscious mind.

The next step in his theory is the doctrine of complexes. A complex is a combination of ideas having a certain emotional and conative trend and possessing energy which can only be discharged by reaching a definite end. The discharge of this energy

leads to an end-state of satisfaction. A man may be altogether ignorant of his complexes. If two opposing complexes are actively present at the same time there is, not in a figurative sense, but actually, war between them; in technical terms "a conflict" arises which causes emotional strain. The victim of such a conflict may settle the matter by accepting one complex and disregarding the other, or he may alter both, but sometimes the solution is morbid and results in hysteria or some other psychoneurosis. A person may unconsciously suffer from a conflict of complexes and know nothing of what is going on in the unconscious mind, but only feel the misery of the results. If the person is conscious of "the conflict" he may avoid it, or try to avoid it, by putting one of the complexes out of his mind, trying to forget or forgetting it. This is called "repression." A repressed complex does not cease to exist but becomes unconscious and may, though unconscious, prevent "satisfaction." There is an assumed active function, "censor," which prevents a complex from coming into consciousness or drives it back into unconsciousness. A censored complex continues to influence consciousness, but indirectly and distortedly. The emotional and conative elements of the complex may separate from the ideas to which they belong, may exist independently, once having arisen, and the energy of the complex is also a separable thing which may be released from the idea to which it originally belonged and attach itself to another.

Conflicts among complexes cause much mental disorder, *e. g.*, hysteria. In a conflict every endeavor is made to avoid the "censor." This is done by: 1, symbolization; 2, condensation, by which is meant that one symptom may represent two or more independent unconscious "wishes"; 3, displacement, which means that the affect properly belonging to one constituent of the complex is attached to some element not under the ban of the "censor"; 4, representation of opposite, *i. e.*, certain elements of the symptom may portray the exact opposite of the corresponding element in the unconscious "wish"; 5, alterations in time sequence, *i. e.*, the sequence of events may be reversed or altered in the hysteric attack.

Conflicts have to do with a "repressed wish." The common "repressed wish" has to do with "libido"; indeed it would seem from the reported dreams that almost all repressed wishes are of

the same nature. The common reader would suppose that "libido" connotes sexual in the ordinary meaning of the word, but we are now told it means much more. The most recent American writer (C. C. Wholey, Journ. Amer. Med. Assoc., March 28, 1914, p. 1036) says "it" (the meaning of sexual manifestations) "covers a broad and comprehensive field of experience and activity, whether bodily desires or mental longings. It embraces all desires, instincts, wishes, ambitions, like hunger, sex, acquisition, aspirations, the social sense, love of art etc." Some of us would like to know specifically what the "etc.," includes.

In seeking the cause of psychoneuroses Freud has found the study of dreams of great value. He explains them as follows: They are the expression of repressed wishes. "The censor," active during waking life, is in sleep only strong enough to distort and cause symbolism. As a result dreams have a "manifest content" apparent to consciousness and more or less remembered on waking (the dream as an ordinary man knows it), and a "latent," unconscious content. The latter, the "latent content," is the really important part of the dream, while the "manifest content" is of no value save as being symbolic. The unravelling of the symbolism explains what complexes are causing the conflict. They are the repressed and unconscious, but real, wishes of the patient. Dreams also give the patient a chance to reach a wish fulfilment he cannot obtain in waking life. The dreams of everyone, even those who think they are entirely healthy, indeed are in good health, are to be interpreted in the same way and have the same cause. Inferentially one would conclude that the only useful study of dreams is of their symbolism; that in no other way do they throw light on mental life, and that no other method of studying them is valuable.

One writer at least (Hansell Crenshaw, New York Med. Journal, April 11, 1914, p. 733) regards dreams as a beneficient act of nature. He writes: "The dream is an effort on the part of nature to compensate and defend the mind. It is a protector instead of a disturber of sleep. Certain forms of insanity, wherein the persons imagine that they are kings, or even gods, are, like dreams, compensatory mechanisms for those whose burdens have been too galling and too hard to bear. Similarly the seeming fault of forgetting is generally a defense mechanism without which the

average mortal would have to endure the tortures of the damned here on earth. Moreover, the day dream, or fantasy, is a wonderful compensation to many a soul." One expects to find in theological treatises and in poetry the personification of nature, but scarcely in scientific papers. It is rather curious that one should be given, by nature, a compensatory mechanism to make him happy after he has had a chancre and in consequence gotten, say, paresis. A really good nature ought to reward the good and not sinners; that was the old teaching. The doctor is rather too rhetorical and quite too pessimistic about "the tortures of the damned" suffered by the average mortal. Even neurologists, who see a good bit of the painful side of life, are not as pessimistic as this. The paper, however, is interesting as showing the modern trend to mysticism.

We come to psychanalysis proper. Its purpose is to discover repressed complexes. Formerly Freud hypnotized his patients before subjecting them to psychanalysis, but he has abandoned that method. Now he uses first "free association." The patient is ordered to talk freely about everything that comes into his mind. Especially must he tell the things that seem to him trival and of no importance, because it is the "censor" which makes them appear of no value to him; they may be of vital importance. If he hesitates or refuses to tell something that comes in his mind that something is the clue to the trouble; the "censor" is trying to repress it. The patient having emptied himself of everything he can think of, the doctor proceeds to interpret what he has said.

In addition to this method of "free association," complexes can often be discovered by the so-called association-experiments with words. A prepared list of words, say one hundred, is read to the patient and note made of the first word that comes into his mind after each is read. The time reaction is also noted. Too long time reaction means resistance. The word brought to mind after resistance is also a clue. One writer puts it this way: "Prolonged reaction time, a lack of or a faulty reaction, is a "complex indicator," that is, it indicates that the stimulus word has touched a complex and thus retarded or completely inhibited the reaction." In real life this procedure gives such varying results, dependent upon the differences in emotional makeup of different people, that I do not think it will ever become a usual method of reading the mind. It has been used a little in examining persons accused of

crime, not, so far as I know, by district attorneys and such commonplace people, but by learned amateur criminologists. Experience has shown that the well-seasoned criminal answers well and rightly and quickly. The scared innocent convicts himself.

Acts may be symbolic. Thus a woman patient of mine had convulsive tic with the explosive utterance of an obscene word accompained by spitting. A psychanalyst acquaintance of mine who knew nothing of the patient save what is stated above, and what he could learn by looking at her, explained the spitting as symbolic of emptying the mouth after a certain act and further affirmed that the woman undoubtedly had indulged in this practice. I have every reason to believe, not from what the patient stated, because I saw no reason to discuss the matter with her, but from other sources of information, that the gentleman's conclusions were entirely erroneous. The case, however, illustrates the method of interpretation of acts as symbolic and shows its value. I was very much, and not altogether favorably, impressed by the cocksuredness with which the gentleman spoke and the positiveness with which he drew a conclusion from fanciful evidence.

Finally the patient relates his or her dreams and they are also interpreted by symbolism. The method of interpretation is shown by the following examples. Freud relates this one: A woman dreamed she was having her menses. The meaning was the menses had stopped; she would have liked to have enjoyed her freedom longer before the discomforts of motherhood began. Another woman dreamed she saw milk stains on the bosom of her waist. It was an indication of pregnancy; the young mother wished to have more nourishment for the second than she had for the first child; hence the dream. There is not much symbolism in either of these, but the first illustrates the theory that the "wish" may show itself in the dream either positively or negatively; in other words, the newest science confirms the truth of folklore in believing that dreams may go by contraries. Symbolism raised to the Nth. power is shown in the following dream recorded by Dr. A. A. Brill ("Psychanalysis," p. 87): A woman dreamed she walked on the street and a horse harnessed to a wagon was running toward her. She could not get out of the way; the horse was almost upon her. She put out her hand to push it away, when it caught her hand in its mouth and bit her. Screaming, she awoke

terrified. Such was the dream and it occurred just before or at the onset of an attack of anxiety hysteria, and as "dreams are always based on experiences or thoughts of the day preceding the dream," Dr. A. A. Brill assumed that dream and attack had some relation. Further, the doctor states that "the fear in the dream pointed to its being of a sexual nature and I suspected that the horse was simply a sexual symbol." On further examination she said that her first conscious sexual impression was from seeing horses, though of course she was too young to know the real meaning of things and thought the horses were fighting. There was at this stage of the examination a sudden "blocking" and when asked to continue she recalled something which had nothing to do with horses. The evening before the dream some little animal ran out of the brick stove into the bed. Though usually not afraid of mice or rats, this time she was terribly frightened for hours. She hunted through the bed, found nothing, but was afraid to sleep in it. This recalled that the fright occurred a few hours after unsuccessfully trying to sell her feather beds. She again became silent and claimed her "stream of thought" was exhausted. The doctor suspected "her attack of fear was the manifestation of a mental conflict in a sexual abstainer." He asked her why the rat or mouse frightened her. She said she was not afraid of the real thing, but imagined they were apparitions; that someone had tried to exert an evil influence over her by magic, but she no longer believed such nonsense. Asked who exerted the evil influence, she at first refused to answer, saying the whole thing was not worth talking about. Later she said it was the man who offered to buy the bed. She described the man (X) as a disagreeable, impudent fellow, who persisted in calling on her until she hid herself when he came. She suddenly broke off and became indignant, saying it was foolish to revive such things. The doctor told her he was sure she was concealing something and that he believed she had some affair with X. She denied it indignantly, but returned two days later and confessed. The horse symbolized X. Its being almost upon her, had a sexual significance. Is comment necessary?

Dr. A. A. Brill (N. Y. Med. Journ., March 21, 1914) also relates the following dream: "A woman was at a menagerie with a little niece. The animals all came out of their cages. She was

greatly frightened. She saw a stairway, which she went up with great trouble. All the doors at the top were locked." She awoke. He gives this analysis. The patient suffered from hysteria and had a terrible disgust for sex. The niece typified purity, innocence, maidenhood. The wild animals signified the animal passions that were pursuing her. The great effort to reach the top of the stairs signified the acceptance of normal sex without running away. "The whole act symbolizes coitus." "The several closed doors which she could not open signify the many opportunities to marry which she let slip." This was published by a physician in the twentieth century and in America, not in the ages of witchcraft, nor in the heart of Africa.

Dr. Hansell Crenshaw (N. Y. Med. Journ., April 11, 1914) publishes the following dream: "A vigorous young lady dreamt that a ferocious lion chased her up one side of a mountain and down the other." The doctor discovered, not from the dream, that "the lady was engaged to marry an elderly gentleman of considerable wealth. Her family encouraged the match, and while the young woman herself thought well of the alliance, nevertheless she postponed it once or twice. Deep down in her heart she desired to be courted, pursued, by a more virile, more animal lover than the lamb-like old millionaire to whom she was betrothed. In a word she wished something more leonine." The doctor therefore interpreted the dream thus: "The lion personated the lacking attributes of her aged fiance. The mountain in this dream, too, had a sexual significance," the doctor continues, "if we are to believe with Freud that a wooded mountain is symbolic of the mons veneris and that climbing in dreams symbolizes sexual activity." Much more astounding than this, to my poor mind, is the doctor's reference to a young widow who had five possible chances of marriage and who dreamed of coming upon five snake-holes, from each of which protruded the head of a snake. Curiously enough, however, only one of the serpents came out and pursued the widow. What will the readers of the thirtieth century think of the writers of the twentieth? Fortunately wood pulp paper has no enduring qualities.

The purpose of the psychanalysis of any given invalid is to discover some unpleasant, painful, or shameful event in the past history of the patient, because the event, or rather the memory

of it in the unconscious mind, is the thing which is causing the conflict. When it is brought into conscious life and the patient is shown what really is the matter with him, then he, or more frequently she, is cured. It would seem to an outsider that this is a very complex way of doing a very simple thing. One does not need dreams, and free association, and blocking of word association to find out these matters. One does not need any such things at all. Honest confession is often good for the soul, and misunderstanding and ignorance about the physiology of sex leads, especially in adolescents, to much ill health, but there is not needed for its cure such performances as are described above and the trouble, when present, resides not in the unconscious mind, but in a very remembering and conscious mind.

Freud's idea that mental processes are ruled by law will be accepted by many of us; indeed it is no new thing, but came into the world as soon as the idea of natural law was first thought of and has been battled over ever since. When, however, he adds to that the idea that such laws of mental action can be explained by psychological terms only, there arises in the minds of some a feeling of resistance, of antipathy; a feeling that he is getting into a very fanciful realm. Those of us who are inclined to the view that there is always a physical cause for a mental act, and a perversion of physical function whenever there is a perversion of mental acts, want proof before we will accept his opinions. Now, Freud nowhere gives any proof of his dogmas. He states that certain things are true, but he does not give any evidence of their truth, unless indeed there is the pragmatic sanction that, since patients are cured by his method, his psychology must be true. It may be true pragmatically, but the question is, is it true really? Again, it is claimed that the accuracy of the interpretation of dreams proves its verity, but of this I shall speak later.

Freud emphasizes very much the importance of the unconscious mind. Now, no one doubts that the way to remember a forgotten word is to forget all about it; no one doubts that it is well, to use a popular phrase, to sleep over a question requiring much thought before making a decision, though we do not all believe that an unconscious mind is wrestling with the problem; but Freud's unconscious mind is much more than, and very different from, this. An incident in childhood long forgotten and entirely out of

conscious life is really there, according to him, and acting all the time, and may in mature life start a conflict among complexes which wrecks the mind. A woman without knowing it may be in love with a man whom she consciously knows she does not even fancy. Now, the feminine mind is mysterious to mere man, and is getting more so, and love and hate are in a sense not far apart, but it is rather difficult for some of us to accept Freud's notion of unconscious mind as correct.

When we come to complexes and conflicts between them and a "censor" which controls them, we are getting into very deep waters. When we are told that these complexes have independent energy and that the discharge of this energy gives pleasure we are far over the heads of many people. To some it would seem that instead of being so far over our heads the writers were merely playing with words rather than attempting a real explanation; or it might be thought they were speaking figuratively. They say they are not. Of course it is true that a man's mental bias depends upon past experiences as well as upon his heredity and training. A man's type varies as these vary. In other words, the way a man will look at certain things, the way he will react under certain conditions, depends upon his bias, and bias is the unconscious effect of old memories, training, and inheritances; but that certain ideas are grouped in complexes, that they themselves are ever present, and not only their results, is not proven or even rendered probable anywhere in the writings of Freud or anyone else. I cannot understand how a mental thing of which we are, by definition, unconscious can influence conscious life. I can, *e. g.*, understand how a boy can be in love without knowing what is the matter with him; most adolescents have the experience (it has a well-known underlying physical cause), but I cannot understand how a child's emotional feeling toward a grown person can, entirely unconsciously, be carried on into adult life and create a repressed wish, he not knowing he is repressing or wishing anything, and hence lead to mental disorder. I cannot take seriously the statement that the affection of a little child for one of its own sex is really a manifestation of homosexual love, nor if such a thing be normal in children, as is claimed, can I see how or why a normal event should, years after, cause a sexual conflict and hence a sexual neuropsychosis. Normal things should not have patholog-

ical results. I confess I am not willing to accept the symbolical interpretation of a dream as proof.

As to dreams: According to Freud almost all dreams are sexual. In all there is a struggle to get satisfaction for a repressed wish. He proves this by interpreting all dreams symbolically and the sexual act is symbolized by almost everything, *e. g.*, a bald head, a dagger, an umbrella, a toadstool, the toe, a fireplace (vagina), a horse, bulls, dogs, cats, chickens, a steeple, an asparagus stalk, a wooded mountain, climbing, snakes, getting wet by rain, water, the lock and key, and finally any elongated object of any sort. Writers state: "All animals in dreams are usually sexual symbols" and fear also; all of these things and more have a sexual significance. Now, if you start out with the premise that everything symbolizes some one thing, that one thing is going to be the meaning of every dream and it would be very difficult for anyone to have a dream in which one at least of the orthodox Freudian sexual symbols does not occur. I confess ignorance as to how it was discovered, in the first place, that the things catalogued above are sexual symbols. One is inclined to suspect as much power of symbolizing in the interpreter of dreams as in the dreamer; perhaps even a little more.

What sort of diseases are suitable for psychanalytic treatment? Freud states its use is limited. The patient must have a certain degree of education and his character must be reliable. Only those who are prompted by their sufferings to seek treatment can be aided. Those who subject themselves to it by order of relatives are unfitted. Psychoses, confusional, and marked toxic depressions are unsuitable. Later it may be possible to disregard these contraindications, but not now. Persons near or over fifty are not psychically plastic enough—not educable. Youthful persons, even before puberty, make excellent subjects. Psychanalysis should not be attempted when it is a question of rapidly removing a threatening manifestation, such as hysteric anorexia. These are Freud's own statements.

Dr. A. A. Brill always begins treatment with an investigation of the patient's dream life, but first he occupies two weeks with getting acquainted with the patient. He further states that it is not wise to "analyze relatives" (I do not think he tells us why) and advises; "In private practice do not analyze any patient with-

out receiving some compensation for it" ("Psychanalysis," p. 6). Surely the laborer is worthy of his hire.

A word about the sexual element in psychanalysis: When anyone now accuses the disciples of the newer psychology of laying greater stress on sexual matters as a cause of mental trouble than they deserve, the word "libido" is claimed to be used symbolically. But on reading the interpretation of the dreams reported in books and papers one finds "libido" is used in its common, ordinary, everyday meaning. The words and phrases symbolic of "libido" quoted above, from printed dreams, were symbolic of the sexual act and desire and in no instance were they symbolic of social sense, love of art, hunger, or anything else. I refuse to make charges of bad faith, but I do not think the disciples of Freudism are altogether frank in their statements as to their use of the word. I think their enthusiasm has made them a little disingenuous. The present explanation was not given till adverse criticism had been made. Almost all the dreams I have read have been interpreted by the writers of the books or papers in terms of ordinary sexual desire, sometimes normal, sometimes perverted.

A very great objection to psychanalytic treatment is this stress laid on sexual matters. No good can come from keeping the mind of a patient wrought up on such things for months at a time and the treatment may, as we are told, need to be carried on over a period of two years. Dr. A. A. Brill seems to think that there may even be danger to the moral sense of the practitioner of the art. He writes: "Only those who are themselves free from all sexual resistance and who can discuss sex in a pure-minded manner should do psychanalytic work." Anyone who has studied hysterical women will soon learn, unless he be obsessed, that so far from continually talking sex matters with them doing them good, it does them distinct harm. I have seen more than one young woman much injured by ideas put into her head as the result of the interpretation of dreams. I have seen more than one sensitive youth, who needed the wisest care and the most conservative handling, frightened into believing, or at least fearing, he was a congenital pervert. Further than this, the whole matter is of such a character that men of evil minds can use it for evil purposes much in the same way that pretence of hypnotism has been used by vicious men to mislead and lead into error, even into vice,

psychoneurotic women. Of course it may be replied that on the same grounds poisons should not be used therapeutically, because men murder with them; but poisons have a use.

The danger is greatly increased by the fact that the treatment is no longer to be confined to physicians, and only recently a German has published a book the avowed purpose of which is to instruct teachers and clergymen how to practice the art. Need one ask if such a thing is wise? We have seen in recent years the injury that has come from amateur treatment of mental diseases by religious systems. Can we expect good to come from psychanalysis in the hands of the general public? Will it be wise for an interesting and spiritual-looking young curate to discuss the sexual symbolism of dreams with girls rather susceptible to human passions? Would it not endanger his own welfare to do it with a woman who had reached the dangerous age? Might it not really lead to harm, the personal feeling becoming stronger than the scientific?

The relation of will to memory is an important element in Freudism. Forgetting is, according to Freud, an act of the will. We forget, in his opinion, what is painful to us. We push it back into the unconscious, but it still acts. This is surely contrary to the experience of most people; with most of us painful things are the very ones which stick in consciousness; they obtrude themselves at the most inopportune times.

Psychic insult is, according to Freud, the large cause of certain mental disorders. Much, however, can be said against the psychic origin of mental troubles, though of course stress and strain act as mere exciting causes. Certainly it is not the people who are subjected to the greatest mental and emotional strain who succumb; it is those who are inherently weak. Everyone who reaches middle life, and many even in childhood, suffer many psychic strains and stresses, but very few become psychoneurotic. Clinicians know that often the most protected, those who have suffered least, are the first to break. This is particularly true in insanity, and in all mental disorders many acts and thoughts popularly supposed to be the cause of disease are really symptoms of it. Thus the sexually perverted are not perverted because they do certain things; they do certain things because they are perverted. It is not unusual for a patient's illness to be attributed to alcohol,

when the excessive drinking was really a result of disease. In the minor mental diseases with which Freudism largely concerns itself, psychanalysis being confessedly of little or no value and impossible to carry out in the true insanities, it is really, just as in insanity, the essential nature of the man, rather than the stresses and strains he has been subjected to, which is important. Thus it is common when a boy or girl breaks to say, out of kindness, that it was the stress of over-work at school or too much practicing of music that caused the mental trouble, but everyone who has investigated the matter knows that public school work is carefully arranged so that a very ordinary boy or girl can accomplish it and that it is the weakness of the person and not the greatness of the stress which causes the breakdown. We are continually talking about the strenuousness of modern life. There is a great deal of humbug about this. The labor union worker is not, so far as work is concerned, under great stress with his eight-hour day and the strictly limited amount of work he is permitted to do. The savage man is under much greater stress; he must get food or die. The modern is cared for if he is not able to take care of himself and he is rapidly realizing more and more that the state is his father and his mother and his wet nurse and that he need not worry. We hear much of family trouble as the cause of mental breakdown, but the people who marry the men or women who are going to cause trouble are very often themselves biologically degenerate. There is something in degenerates that attracts the affection of other degenerates and we often assume a person is strained by something because it would shock us. Not infrequently it is to them no strain. The normal person can and does withstand all the stress and strain of life without mental breakdown. Of course the strains and stresses I am speaking of are conscious, but the argument holds for the unconscious. Really it would seem that more progress in discovering the cause of the psychoneuroses would result from a study of heredity and human chemistry and physiology and pathology than from the fanciful interpretation of hysterics' dreams.

One trouble in bringing dreams into a system of philosophy, and we are told that Freudism has attained the dignity of being a philosophic school, that it has to do not only with disease, but with the explanation of folklore, and fairy tales, and education and

questions of social policy and the rights and duties of man, is that we are entirely at the mercy of the veracity of the dreamer. I know of several instances in which impish, but brilliant, hysteric women have played with psychanalysts and made up dreams. One gentleman explained to me that that did not invalidate them. But it would seem that it would, inasmuch as real dreams happen only when the "censor" is not on duty and are the result of actions going on in the unconscious mind, and it would be rather difficult even for an hysteric to fathom her unconscious mind and make up a proper dream. Not many centuries ago much harm came, even legal killing, from very good and, as they themselves thought, very intelligent people, believing the stories of lying children. Are we to accept the fanciful statements of imaginative hysterics, who by definition are devoid of any conception of truth, to help in building the edifice of a great philosophy?

The frequent statement of the disciples of Freud, that those who oppose their teachings are men of no standing; that they are "back numbers" and unprogressive and ignorant; that they have never attained to the higher intellectual level; that they are mere describers of symptoms and are not intelligent enough to understand such profound matters of philosophy, is not of importance save as indicating a rather egotistic state of mind. It is scarcely an argument, because the question is not what one set of gentlemen think of another set, but whether particular dogmas as to the causation of certain pathologic states are true. If I were to maintain that the moon is made of cheese the correctness of my opinion would not be strengthened by calling gentlemen who doubted it names. It certainly does not require an intellect of a very high order to understand whether hypotheses ought to be accepted as proven facts; whether the Freudian doctrine as to dreams is scientific; whether you can learn much about the contents of a man's unconscious mind by listening to the unbridled babble of his tongue; whether the statements of hysterics are to be accepted as true without question and a system of philosophy be based thereon; whether it is wise to keep an already perturbed mind constantly attentive to sexual matters; whether the test of word association is of much or little value, and whether, when a woman sees a fireplace in a dream, she is really the victim of unconscious "libido" and is symbolizing her own vagina.

I remember an old and distinguished professor of medicine in Germany who, when some years ago I told him I had aspirations to become a neurologist and alienist, looked at me kindly and a little quizzically and then said: "Be careful, my young friend, alienists are all a little queer." The old gentleman had some justification then, but what would he think now could he be told, what we are often told, that psychanalysis is one of the greatest contributions to therapeutic art?

THE PATHOLOGY OF GENERAL PARALYSIS.*

By CHARLES B. DUNLAP, M. D.,

Chief Associate in Neuropathology of the New York State Psychiatric Institute, Ward's Island, N. Y.

In discussing the pathology of general paralysis we shall regard it as a disease etiologically dependent on the spirochaete pallida, but justly to be kept separate from other forms of cerebral syphilis, for reasons which will appear later.

General paralysis, according to the best evidence obtainable at the present day, is only about two hundred years old; it depends absolutely upon previous syphilitic infection, and comes on after an interval of about five to twenty years. Syphilis, however, had been known in Europe for hundreds of years before anything resembling general paralysis was described. If our historical information is correct, syphilis was introduced into Spain in 1493 by Columbus's sailors, who had become infected in the Island of Hayti, and the next year it spread as a very fatal epidemic to Italy and France. Even now among primitive races (*e. g.*, the natives of the North African provinces) where syphilis is rampant, general paralysis is practically unknown. As syphilis lost its severe epidemic qualities, and, in the course of centuries, became a milder disease, general paralysis became gradually more frequent. It, too, in some of the civilized races to-day, according to certain observers, is gradually changing its character; it is said to be milder, with a rather longer course, fewer convulsions, and the demented forms are said to be more frequent; Spielmeyer even suggests that it may eventually disappear.

Previous to 1904 the gross changes in the brain of general paralysis were well known, and many of the finer changes had been described, especially degeneration and loss of nerve cells, loss of nerve fibers, and increase of neuroglia; these finer changes, however, formed part of a rather vague and uncertain disease picture, until Alzheimer, in his classical monograph in 1904, estab-

* Read at the seventieth annual meeting of the American Medico-Psychological Association, Baltimore, Md., May 26-29, 1914.

lished general paralysis on a firm anatomical basis. The facts then established have since been confirmed and amplified by others, and are now well known. In 1912 to 1913 a new impetus was added to investigation, and especially to treatment, through the demonstration by Noguchi and Moore of the spirochæte pallida in the brains of general paralytics, thus proving this disease to be dependent, with hardly a doubt, on the presence of the same organism as that found in syphilis.

In addition to the degenerative changes previously established, Alzheimer showed everywhere, not only in the gray, but also in the white matter of the brain and spinal cord, a chronic inflammatory process, with a perivascular exudate consisting mainly of lymphocytes and plasma cells. The central nervous system is shot through and through by this inflammatory process; no part of it is spared, but the intensity of course may vary greatly in different parts. The frontal lobes are regularly the parts most affected, but other regions may be as much involved, or even more so, and at times in such a circumscribed way as to cause perfectly distinct focal atrophies. A peculiarity of the exudate in general paralysis is that, within the nervous tissues, it is strictly confined to the sheaths of the blood vessels, usually going even into the smallest branches; in the pia mater, however, there is no such restriction of the exudate to the vessel sheaths.

It is on this characteristic distribution of the exudate (*i. e.*, its restriction to the vessel sheaths throughout the whole central nervous system) more than on any other one thing, that the diagnosis of general paralysis rests to-day, and not principally on the character of the cells in the exudate itself; the nervous tissues have only a limited number of responses to irritants of whatever kind, and lymphocytes and plasma cells may be found in many other diseases of the brain or cord, and, as such, are in no way characteristic, unless characteristically distributed.

This pattern of general paralysis applies generally to perhaps ninety-five out of one hundred cases, but pathology has shown an almost bewildering variety of minor changes and subvarieties coming under this general paradigm; such, for example, are differences in the localization, or in the intensity of the inflammatory reaction, which may be extremely mild or very intense; differences in the position, or in the extent of the degenerations in the nervous tis-

sues of the brain, or of the spinal cord, or even in the nerves themselves, especially the optic nerves; then there is the presence of unusual degenerative products; for example, colloidal changes in the cortex or marrow; occasional vascular narrowing or obliteration is also found in the form of typical Heubner's endarteritis, with the necessary sequelæ of focal softenings and focal symptoms.

The pathologist wonders, in the presence of these changes, so varied in position and in degree, that there can be such relative uniformity as usually exists in the clinical picture of general paralysis, and looks upon the clinician as an unreasonable sort of being, if the latter happens to insist on an attempt at close correlation between the antemortem symptoms and the postmortem findings. Roughly we can say, of course, that where destruction of nervous tissue is widespread and great, mental deterioration is practically certain to be profound, but the memory defect, speech defect, expansiveness, general deterioration, and even the physical signs, often appear to bear little intimate relation to the amount of inflammatory or degenerative reaction, and we cannot correctly predict beforehand whether we shall find anatomically a tremendous generalized reaction, or a slight one, or a spotty one. One would be rash indeed in attempting, at the present stage of our knowledge, to correlate, for instance, a disturbance of function, such as speech defect, in a disease of this character, where no part, from the cortex to the end organs of speech production, can be counted on to be strictly normal—how can we put our finger on a certain spot, or series of spots, and say "this is responsible for the speech defect," especially as we are far from knowing the cellular mechanisms of normal speech, and their connections one with another?

The Relation of General Paralysis to Cerebral Syphilis.

Leaving out for the moment the etiological factors, the above brief description of general paralysis as a subacute or chronic inflammatory and degenerative process, which goes through and through the great central nervous organs, is correct for most cases. The varieties of cerebral syphilis on the other hand, for the most part, play around the surface of the central nervous system, instead of going all through it; that is, the lesions, or ex-

udates, which characterize these varieties are confined largely to the meninges, and to the blood vessels within the meninges, and there is rarely much, if any, essential exudate in the underlying nervous tissues.

We hardly need to recall the main types of cerebral syphilis, the gummatous, the meningeal, and the vascular forms and their combinations, except to state, that in the so-called meningeal type there are cases, and they are not rare, the symptoms of which come on many years after the primary infection, just as in general paralysis. In most of these meningeal cases the lymphocyte and plasma cell exudate behaves as it is expected to do, and is limited to the meninges, but sometimes, especially in certain regions (gyrus rectus or temporal lobes), a slight exudate is also seen in the depths of the nervous tissues, sometimes as a plain extension inwards from the meninges, but at times no evidence of such extension can be seen; we thus, in rare cases of cerebral sypyhilis, have patches in the cortex that look just like general paralysis, especially like general paralysis of long duration, where regularly only a slight exudate is present. So the boundaries of general paralysis, usually sharp are not always so, and occasionally it is almost impossible to say whether we have under the microscope mild general paralysis, or the meningeal form of late cerebral syphilis.

Clinically the same difficulties of differentiation in the two groups are met with; the Wassermann reaction often fails to settle the question, and the results of specific treatment have been of but little help, as they are about the same in both cases. The question, viewed from the larger aspect, is hardly worth settling, for general paralysis and the form of cerebral syphilis under discussion should be looked upon as varieties of the same fundamental process, with the same etiology, with much in common clinically and pathologically, and with no clear border-line. Moreover, we still classify as general paralysis a set of cases in which the inflammatory reaction, although typical in form, and ubiquitous in the central nervous organs, is chiefly situated around the larger and longer blood vessels, the smaller vessels being nearly clear; some of these cases (evidently near relatives of cerebral syphilis) give, like the latter, a positive Wassermann reaction in the blood, but a negative Wassermann reaction in the spinal fluid.

Our concept of general paralysis therefore must be kept sufficiently open to admit some of the conditions formerly regarded as syphilitic; and our concept of cerebral syphilis, on the other hand, will probably not suffer by extending it to admit a wider range of what looks like general paralysis.

We next turn to the meaning of the various reactions in general paralysis. That both the inflammation and the degeneration are a response to the presence of the spirochæte pallida, or to its toxin, spread widely through the nervous system, we can hardly doubt; but owing to the difficulty of demonstrating this organism extremely little is positively known of its regional distribution. It is most disheartening to imbed section after section in cases where areas of intense reaction alternate with nearly normal portions, and to find, as the end result of many hours or days of endeavor, that none of the preparations have been successful on account of the capriciousness of the method. Noguchi has examined material from numerous cases, but from only a few areas of the brain in each instance; he found spirochætes in about 25 per cent of the cases examined, mainly in the gray matter, occasionally in nerve cells, but as a rule not near the blood vessels.

We might assume, in contrast to general paralysis, that in cerebral syphilis there is a restricted spread of the organism and that, like the exudate, the organism also is limited chiefly to the meninges or blood vessels; but although there are cases which support this view, positive proof is lacking. It seems, in general paralysis, that in those areas where the reaction is greatest spirochætes are not necessarily present, or at least have not been found, and there is fair evidence to indicate that the reaction moves from place to place in an intermittent way, and that some areas may become quiescent, while in others there is advance. In some of the cases of long duration it looks as if this quiescent state had become general; at any rate the process throughout the brain is extremely slight, so that a step further would mean recovery; and it is not certain (though as yet unproven) that rare cases of spontaneous recovery may not exist. We cannot demonstrate, then, that extreme local damage in the nervous tissue corresponds to great local concentration of the spirochæte or its products, and that slight diffuse damage means the reverse, though this seems highly probable.

Cases have been observed in which, without the pre-existence of any obvious psychosis, general paralysis was discovered after autopsy; moreover deaths in remission, where mentality was fairly well restored, have also shown well-marked active general paralysis; besides, in cases of sudden onset, or of very short course, we have strong reason to believe that the anatomical reaction was well advanced long before symptoms attracted attention. This occasional apparent freedom from symptoms, in the presence of an active process of general paralysis, brings us to another one of the unsolved problems; namely, as to what becomes of the spirochæte in the free interval between the time of syphilitic infection and the outbreak of general paralysis.

It is known that the body tissues do not always present a visible reaction to the presence of the spirochæte pallida; the heart muscle, for example, may be flooded with the organism and show practically no response; it therefore seems that this slowly growing organism may live, for a time at least, in harmony with its host, with its capacity for harm latent, so to speak. We must assume, in our ignorance of the life history of the pallida, and of its biological cycles, if such exist, that in general paralysis the organisms are in some way downed and held in check for a number of years, to become obviously active when conditions are favorable; for that there are conditions which, in conjunction with the indispensable organism of syphilis, determine the development of general paralysis, seems beyond doubt; what these conditions are forms another problem for the future.

We might put the problem in this form: "What is needed besides syphilis to produce general paralysis?" We know from the studies of investigators, like Fournier, Mattauschek and Pilcz, and others, that it is those cases in which preceding syphilis has been very mild that are especially prone to develop general paralysis; that is, it occurs more often in persons who have reacted only slightly, or as some say, inadequately, and without a sufficient production of antibodies, to the original infection; among races and individuals where the reaction has been violent, general paralysis is much less likely to appear. We cannot say whether it is a special strain of the spirochæte which is responsible for this mild syphilitic reaction, and the later sequel of general paralysis, or whether it is a strain especially attracted to the nervous system,

a "neurotropic" variety, as some have supposed, or whether certain biological changes wrought in the spirochæte by its sojourn in its host during the intervening years have rendered it more prone and fit to invade the nervous tissues, which in their turn may have been rendered more susceptible to attack. Noguchi found some experimental evidence for the existence of a special strain in the fact that the organisms, obtained from cases of general paralysis, had an unusually long incubation period.

The same lack of acquaintance with the life history of the spirochæte, especially in human beings, clouds the question of successfully eradicating it from the nervous system by treatment. One difficulty here is certainly the relative inaccessibility of the central nervous system to drugs; for an organism situated, as this is, in the depths of the nervous tissue, and producing lesions through its whole extent, is reached and attacked by drugs only with the greatest difficulty. Remedies introduced even through the blood, no matter how diffusible they may be, hardly enter the tissues of the brain and cord at all, and while salvarsan seems a more powerful agent against the organisms in other parts of the body than any of the other specific drugs, and while the local use of salvarsanized serum through the cerebrospinal fluid seems most rational, it is yet too early to know whether the spirochæte is only retarded or rendered latent by this method, or whether it can be sufficiently gotten at to be completely eradicated.

It seems fairly certain, from the standpoint of pathology, that prolonged and rigorous general treatment should be combined with local treatment, and that both should be pushed to the limit of safety; for general paralysis is more than a local disease; the spirochætes have been demonstrated not only in the tissues of the central nervous system in general paralytics, but they have also been reported, by means of experimental inoculations, in the cerebrospinal fluid of such cases and, in a few instances, in the circulating blood of general paralytics; besides this, inflammatory changes in the peripheral nerves similar to those seen in other parts of the nervous system in general paralysis have already been referred to. Much of the later work on the blood and spinal fluid needs control and checking by autopsy, in order to be sure that cases reported are unquestionable general paralysis, but it seems fairly safe to say to-day, that *general paralysis is essen-*

tially a generalized infection with the spirochæte pallida, in which the central nervous system stands out more prominently than any other part.

Any method of treatment which will arrest or cure this fatal disorder is most welcome, but on anatomical grounds I feel most strongly that in many cases by the time the diagnosis can be made much damage will have already been done. I look to *prophylaxis in syphilis itself* as the great hope of the future.

THE MEDICAL EXAMINATION OF MENTALLY DEFECTIVE ALIENS: ITS SCOPE AND LIMITATIONS.*

By L. L. WILLIAMS, M. D.,

Surgeon, United States Public Health Service; Chief Medical Officer, Ellis Island, N. Y.

In the paper which I am presenting through your courteous invitation, I shall not attempt to describe the diagnostic methods employed in determining the existence of mental defect among alien immigrants, but shall endeavor to present briefly the problem as viewed from the administrative standpoint, with some statement of what can be done and what cannot be done under present conditions, as well as an account of the progress which has been made and the results which have been accomplished.

The intensive study of the feeble-minded during recent years, the propaganda for the early detection and proper care of defectives and the warning given the public as to the consequences to the state of the multiplication of persons of this type, have had, among other good results, a marked and beneficial effect upon the medical inspection of mentally defective aliens. To make my meaning plain, it will be necessary to explain briefly what the medical inspection of aliens consists of, and to contrast former conditions with those which obtain at the present time.

Medical officers of the United States Public Health Service are required by law to certify, for the information of the immigration officials, all physical or mental defects or diseases observed among aliens presented to them for examination. The law divides the persons who are subjects of medical certificate into three great classes: First, those who suffer from physical diseases and defects. The deportation of persons of this class is not mandatory, but they may be landed or deported in the discretion of the immigration authorities. The medical certificate operates merely as a handicap in these cases and is considered by the immigration officials along with the rest of the evidence affecting the indi-

* Read at the seventieth annual meeting of the American Medico-Psychological Association, Baltimore, Md., May 26-29, 1914.

vidual's right to be landed. As a matter of fact most of the aliens in this category are landed. Aliens of this class who may be landed are of course liable to become a charge upon the public, but pecuniary loss is the worst that can happen.

The second class comprises persons suffering from loathsome or dangerous contagious diseases, including such ailments as favus, trachoma and other chronic infectious diseases. In addition to the economic burden, these persons are likely to spread the diseases from which they suffer; their exclusion is therefore mandatory under the law.

The third class includes the insane, epileptics, idiots, imbeciles and feeble-minded persons. The insane and the low-grade idiot are of importance mainly on account of the financial burden involved. As the high-grade imbecile and feeble-minded, on the other hand, in addition to the financial loss they may occasion, are more disposed to delinquency and are especially likely to become the progenitors of an ever-increasing line of defective dependents and delinquents, they form the most dangerous class of immigrants seeking admission into the country. The exclusion of all these defectives is now mandatory under the law; but this has not always been so. The law of 1891 required that idiots and insane persons be debarred. The act of 1903 included idiots, insane persons and epileptics. The immigration law of 1907 for the first time added imbeciles and the feeble-minded to the list of persons to be absolutely excluded. Prior to this date the feeble-minded, if made the subject of a medical certificate, were landed or deported at the discretion of the immigration officials. Moreover, as most of the discretionary cases were landed, there was not much incentive to engage in the very laborious task of sifting out the feeble-minded. The addition to the law of the words "feeble-minded persons" and the placing of these persons in the category of those whose deportation is mandatory has been far-reaching in importance and has been the cause of a most radical change in the character of the medical inspection of immigrants at Ellis Island. This change in the law and the consequences that have followed it are directly due to the awakening of public interest in this question, and the education of public sentiment by the splendid work done in this department of medicine during recent years. Earnest work, whether done in the laboratory or in the

field, eventually comes into its own, and this is only another conspicuous example of the practical fruits which the public eventually reaps from scientific work which, at first sight, may appear to be only of academic interest. In this particular instance an awakened public sentiment became crystallized into law and as the medical examination of aliens is conditioned by law and must, of necessity, proceed along channels which the law indicates, the beneficial results have become apparent.

The problem presented to the medical staff is the necessity for examining daily, between the hours of 9.30 a. m. and 4.30 p. m., from 2000 to 5000 immigrants, without such undue detention as would result in blocking the work of the immigration officers and causing an indefensible congestion in the quarters for immigrants detained over night. This examination is expected to weed out from a polyglot multitude all individuals suffering from physical and mental disabilities and to do this without the aids available to the physician under ordinary circumstances. No help is given by the alien and no previous history worthy the name is available. There is no indication upon which to base inquiry save the appearance, behavior and psychical reaction of the subject; speed is absolutely necessary; much of the work must be done through the medium of interpreters; and the varying characteristics and normal mental reaction of different races must be constantly borne in mind.

In ordinary practice the suspected defective comes to the observer with a presumption against him; something in his past history has invited attention to him as a possible mental derelict, and he is brought to the physician by those responsible for him and who are usually actuated by a desire to learn the truth with a view to placing him in the best possible environment. The alien on the other hand appears before the medical examiner merely as a possible candidate for deportation. A positive diagnosis will not result in placing him in a favorable environment, but will be merely the signal for his exclusion. The medical examiner, therefore, in any attempt to secure his previous history, will, as a rule, get none or else a false one.

In dealing with mental defectives the law confers broad powers upon the medical officers of the Public Health Service and in effect requires deportation upon a medical certificate. While

it would be a technical compliance with the law to cause a certificate to be issued by a single medical examiner, it is regarded as unwise to place so heavy a responsibility upon a single man. To safeguard the alien's interests, as well as those of the country, and to avoid as much as possible errors due to the personal equation, the procedure to be described has been adopted.

As the immigrants pass through the primary inspection line each is inspected by two physicians, one of whom takes special note of any indication of mental defect or disorder and addresses to each alien a few questions in his own language. All who in appearance or behavior excite suspicion, or who give irrelevant or stupid replies, are set aside for further inquiry. The suspects thus turned aside are at once given a brief preliminary examination for the purpose of sifting out and discharging those among them who are obviously of sound mind. Of those who remain each one appears before a board of at least two medical officers, who examine him by every available test which experience has proved to be useful and prepare a record of their findings. The record is carefully examined by a third officer, and should anyone of them disagree as to the diagnosis, further consultation is had and another examination given at a later date. In case of doubt or when the alien is emotionally disturbed he is sent to the hospital for observation. To still further guarantee him against unjust exclusion, moreover, he may be re-examined upon the request of the Commissioner of Immigration, of any medical officer, of his relatives or his attorney; in brief, upon the request of anyone having any legitimate connection with the case. In addition, his relatives or his attorney may have the privilege of causing him to be separately examined by a private physician of their own selection, and the report of such physician is given careful consideration. No such private physician, however, is permitted to participate in the official examination or to take part in the deliberations of a medical board. Much pressure has been brought to bear from various sources, including a federal court in at least one instance, to have the alien's physician participate in the official examination, but such pressure has been consistently resisted. What the law requires us to do we can neither shirk nor delegate to another. It will thus be seen that every reasonable precaution is taken to provide against an error which would be

detrimental to the immigrant. Such precautions are just, because the execution of the law involves much personal hardship and this should not be increased through hasty action. These safeguards thrown around the alien are often abused, however, and the demands for re-examination of cases which have already been exhaustively considered have at times been sufficiently numerous to seriously impede the day's work.

Many efforts are made to invalidate the medical certificates in these cases. One of the principal methods adopted by the attorneys of aliens certified as feeble-minded is an appeal to the Department, the appeal being accompanied usually by a contradictory opinion from a private physician who has been permitted to examine the case; and it may be stated here that, although some of these opinions are undoubtedly honest, unfortunately there are a few physicians who, while declaiming against the admission of defective aliens in the abstract, will in individual cases attempt to obstruct the operation of the law by opinions which are plainly disingenuous. The authority of the medical examiners, however, is so well guarded by the present statute that no serious danger is to be apprehended from this source, provided that the law is firmly and impartially administered.

Another favorite method is by appeal to the federal courts. Heretofore it has been the practice of the courts to ascertain whether the alien has been accorded all the rights and privileges to which he is entitled under the Immigration Act and, if this is affirmatively proved, to dismiss the proceedings and return the alien to the custody of the immigration authorities for deportation. Of late there has been a tendency on the part of some members of the bench to reverse this practice and to bring into court and to question the validity of the technical procedures which are undertaken under the Immigration Act, and to order the landing of persons who have been excluded. I am not qualified to discuss points of law, but the fact remains that if this tendency becomes a settled practice it will constitute the most serious menace to the elimination of unfit aliens through medical inspection. It may thus easily be seen that the pathway of the examining physician is beset by pitfalls and that he cannot proceed too cautiously in the performance of his duties. Keen attorneys, ever wakeful to find cause for appeal, scan his every act and are prompt to take

advantage of any technical irregularity of procedure or unwary statement as a pretext for attacking his conclusions and attempting to destroy the value of his work.

Under the law the medical inspection is an independent function, necessarily so, inasmuch as it deals only with questions of scientific fact. Herein lies its efficiency, and should it at any time become subordinated to considerations of expediency it will without doubt undergo deterioration.

The progress which has been made in sifting out mentally defective persons from the mass of incoming immigrants is well shown in the official statistics for the past 22 years, covering the period during which the general government has exercised full control of immigration. During the 12 years from 1892 to 1903 inclusive, from one to seven idiots were excluded annually from the United States, a negligible number; from 1904 to 1907 the number deported varied from 16 to 92 annually. After the passage of the act of 1907 the number perceptibly increased, as shown in the following table, taken from the published reports of the Bureau of Immigration:

DEPORTED FROM THE UNITED STATES.

Fiscal Year.	Idiots.	Imbeciles.	Feeble-minded.	Total.
1908	20	45	121	186
1909	18	42	121	181
1910	16	40	125	181
1911	12	26	126	164
1912	10	44	110	164
1913	18	54	483	555

For the first ten months of the current fiscal year, 776 mentally defective persons have been detected at the Ellis Island Station, indicating a probable total for the year of 930 at the port of New York. It will be seen therefore that the past two years have been especially productive of results. These figures do not include the insane and the epileptic. In 1912 18 defectives in 100,000 were certified at Ellis Island. In 1913 the number increased to 50 per 100,000. For the first ten months of the current year 91 per 100,000 have been detected. In March, 1914, the rate rose to 148 per 100,000, and in April to 157 per 100,000.

An examination of a large number of records shows that 90 per cent of these persons were illiterate.

While these numbers are not large in comparison with the mass of population, they indicate that there have been stopped at one of the sources of supply a considerable number of individuals, many of whom would not only have themselves become dependents, or worse, but who would have become in time the parents of an ever-increasing progeny of defectives to fill our almshouses, reformatories and jails. The increasing efficiency of this work, as indicated by the record, is most encouraging. The medical staff engaged in this laborious task includes a number of men of large experience and long training, and a spirit of team work has been developed which has made these results possible and which is an earnest of better things in the future.

The medical inspection of aliens, especially mentally defective aliens, is a highly specialized subdivision of practical medicine and requires of the examiner exceptional qualities. In order to succeed he must possess, in addition to a broad professional training, tact, good judgment, firmness, discrimination and the power of close observation; he must be free from prejudice and the partisan spirit; he must not strain after a record or be governed by statistical considerations, but should consider every case that comes before him as though it were the only one upon which he was required to pass judgment. The attitude of the medical examiner toward these suspects must, above all, be a judicial one, for he is, in effect, a member of a jury to decide a grave question of fact, involving the heredity of many future citizens of this country. He should not permit himself to adopt the rôle of prosecuting attorney and must resist the tendency to develop the hunting spirit which would incite him to strain a point for the sake of a record. He represents the country at large and must protect it against invasion by the unfit; but in discharging this duty he must accord to the alien at least that measure of mercy which a court of justice would consider to be his right, and must give him the benefit of every reasonable doubt. To adopt a different attitude and to issue a dictum which is not backed by recorded evidence sufficient to support it beyond question would savor of tyranny, and such a policy in the long run would defeat itself by running counter to the public conscience.

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All these considerations, all these difficulties which are bound up with this problem and are an essential part of it, militate against the official certification of the high-grade moron, although it is recognized that he may be a source of greater danger to the community than his more defective fellow. In approaching the problem of the detection of the high-grade defective, we are met at the very beginning of the inquiry by obstacles that are most discouraging. Among these may be mentioned the inability to obtain a history of his past life and activities, of his social and industrial habits, of his emotional stability, of the attitude of his companions toward him and especially of his moral development, or lack of it, as shown by his behavior in his home environment. In an inquiry along these lines the examiner runs against a blank wall. Then we must consider the difficulty in examining such a subject through the medium of an interpreter, and the practical impossibility of holding him for observation long enough to obtain evidence from his behavior. If such observation were possible it would be in an artificial and protected environment in which his habitual reactions would be unlikely to appear. The idiot, the imbecile, and the fairly well-defined grades of the feeble-minded are now the subjects of medical certificates. With increasing experience we may hope to approach the ideal more nearly and may reasonably expect to sift out most of the feeble-minds characterized by intellectual defect. Under existing immigration conditions, and for the reasons given, we cannot hope to detect any large percentage of high-grade feeble-minds whose defect appears mainly in emotional instability or moral obliquity.

The law places a heavy responsibility upon the medical officers who perform this work, a responsibility which should and does make for conservatism. Because of this conservative attitude the medical inspection of mentally defective aliens at Ellis Island has been criticised at times and the claim made that it does not go far enough, and that many persons are passed by our examiners who should be excluded. That the examination is still far from perfect is readily conceded; we hope to make it better. But much of the criticism thus far has been based upon the opinions of observers without medical knowledge; lay workers who have learned the usual tests employed in examining school children, or else upon the dicta of persons who may be otherwise qualified

to express an opinion, but who have not taken into consideration either the practical difficulties which confront the medical examiner, or the gravity of a certificate of feeble-mindedness under the immigration law. We cannot afford to make many mistakes in examining aliens. While failure to recognize a feeble-minded individual results in his admission into the country to the detriment of the state, on the other hand a certificate based on insufficient grounds means unnecessary and painful separation of families and the sending back an alien to the ends of the earth regardless of the hardship involved. An error in the case of a child at school or in an institution merely means that he will be wrongly classified, an error easily corrected. An error which results in unjustly deporting an alien from New York to Eastern Europe is a grievous blunder and is without remedy. A rigid formula which may be very useful in examining school children cannot unreservedly be applied in determining the mental condition of illiterate immigrants, and it becomes necessary to make use of every available means of arriving at a just conclusion. As in all other diagnostic problems, rule-of-thumb methods are misleading and unscientific. In view of the serious consequences, as our findings are frequently combatted at Ellis Island, at Washington and in court, and as all of our work is thus done in an atmosphere of hostility, we cannot afford to depend upon any single test, no matter how valuable, or to adopt a mode of procedure which would result in mechanically grinding out a diagnosis. Nor can we certify as defective a number of individuals concerning whose mental status we may entertain strong doubts. The very word "certify" used in the law lays upon us this limitation. A strong probability will not suffice; we must be certain of our ground. For these reasons it is not surprising that we cannot concede the justice of criticisms based upon work in a widely different field, and which are made without a knowledge of the legal aspects of this work and the discouraging array of practical difficulties which surround it.

> "The toad beneath the harrow knows
> Exactly where each tooth-point goes;
> The butterfly upon the road
> Preaches contentment to that toad."

In shaping this work and bringing it to greater perfection the theorist, the faddist, the fanatic and the self-seeker have no proper place. The only rational method of attacking the problem is by close study of the actual conditions, by the application of the experimental method, and by laborious research carried on in connection with the practical work. The criticism of the judicious and the informed, any criticism that is constructive and helpful, will be welcomed. Mere fault-finding is unproductive, and can serve no useful purpose.

Some original investigations are now being conducted at Ellis Island, and are being pushed as rapidly as the routine work will permit. A medical officer assigned to the special duty of examining as large a number as possible of normal individuals belonging to various races and nationalities, has devised a carefully considered scheme of inquiry, and it is believed that much valuable material will be obtained which may aid in standardizing the tests in use, and assist in establishing at least approximately a practical standard upon which certification may be based. The records of cases which have been held for examination and subsequently discharged, including many which may be regarded as borderland cases, are also being searched for data which may prove valuable.

At present the point of maximum error in the examination is the primary inspection. If an alien is passed on this first inspection, there is no further opportunity to examine him, and it is here that most improvement may be had. To obtain such improvement and more closely sift out possible feeble-minds for further inquiry, this initial examination should be slightly prolonged and more time given the examiner to pick out suspects by such interrogations as may throw light on their mental peculiarities. The additional time required in each case would not be great, but it is difficult to secure it without unduly slowing down the entire process. Two thousand immigrants are now handled at this primary inspection in two hours and a half by operating four inspection lines, the maximum number for which space is available. They pass through therefore at the rate of one every 4½ seconds, but, as there are four lines, each alien is given on an average 18 seconds. This rate will vary according to the class of immigrants brought by particular ships and will also be

affected by fatigue on the part of the medical staff. The most potent factor, however, in fixing the amount of time given each alien is the necessity for passing them fast enough to avoid blocking the work of the immigration officials. When immigrants are coming in at the rate of 4000 to 5000 daily and the detention space is limited, it will readily be seen that this practical factor becomes dominant; otherwise such congestion would speedily result that the entire process would come to a standstill. A few additional seconds devoted to each alien would be of great value, but, for the reasons given, these additional seconds can be secured only by a substantial increase in the medical personnel and a corresponding increase in the working space. The work which has been done by individuals and by scientific bodies, of which this Association is a type, has had its effect in shaping the law. But the spreading of a law upon the statute books is only half the battle; it is equally essential that adequate means be provided for carrying that law into effect. While the work among mental defectives at Ellis Island is becoming more and more efficient, as shown by the record, the possibilities of the present law cannot be fully realized until a sufficient number of medical officers, a sufficient force of competent interpreters and an adequate working space shall have been provided.

The necessity for such additional provision has been brought to the attention of the national legislature and the effort to secure a complete execution of the law in this regard should command the support of the medical profession, and especially of those members of it whose daily work has given them a clearer insight into the danger to the country from the introduction of persons with mental defect or psychopathic taint, and whose special training entitles them to speak with authority.

The elimination of mental defectives is only one of the phases, probably the most important one, of the great problem of the restriction of immigration by excluding the undesirable elements and many legislative schemes have been proposed.

It is likely that there will be much empirical legislation in the future as in the past before this question is finally set at rest, but I believe that in the long run immigration will be restricted by a process of intensive selection based upon scientific grounds and resulting from scientific study of all of the conditions;

and it may not be too much to hope that the day is not far distant when the intending immigrant will be required to present a clean bill of health, physically and mentally, and a clean bill of character as well and, through agencies to be devised by the scientist and the statesman of the future, be compelled to prove his right to enjoy the benefits of American citizenship.

APPLIED EUGENICS.*

By SANGER BROWN, M. D., Chicago.

Eugenics is by no means a strictly medical subject. The physician's special relation to it is due to the fact that observation of the laws of heredity comes peculiarly within the range of his professional activities; his daily work affords him a highly favorable opportunity of witnessing, in one form or another, the deplorable evils entailed by tainted or defective parentage; hence it is only natural that he should be found among the foremost to seek a remedy for them. If it is conceded that physicians in general, by virtue of their vocation, are better qualified than any other class to estimate the practical significance of the laws of heredity as they affect individuals, then the members of this association, by reason of their special practice, are pre-eminently qualified to speak with authority on the subject. It is certainly within the province of the physician, and possibly one of his many public duties, to elucidate as clearly as he can the laws of hereditary transmission, but after he has done this, the particular use society shall make of his contribution is no more a concern of his than of other citizens.

Applied or practical eugenics may be defined as the regulation of reproduction in accordance with the laws of heredity, with the aim of thereby evolving a superior race. To this end two plans of procedure suggest themselves, constructive and restrictive. Constructive methods, by making a scientific selection of parents, would propose to evolve directly a specified progeny; while restrictive or preventive measures would seek to improve the offspring indirectly, by limiting or preventing propagation of the unfit.

Since it is a matter of common observation that visible bodily characteristics are frequently hereditary to a striking degree, it is no less reasonable to suppose that the special structure of the brain favorable to the achievement of individual prominence may be inherited than may be that which determines liability to such

* Read at the seventieth annual meeting of the American Medico-Psychological Association, Baltimore, Md., May 26-29, 1914.

diseases as epilepsy or insanity for instance. However, it is probable no one at the present time would seriously engage to produce a potential prodigy if given ever so much latitude in the selection of parents. Indeed to assume that such a result could be attained with anything like scientific accuracy would be to open a broad and fertile field for the exercise of humorous speculation. Whereas a material diminution in the frequency of the above-mentioned maladies would certainly ensue, if the victims of them did not participate in propagation. Thus, the wide discrepancy between the degrees of confidence with which the result can be predicted in the two cases supplies a satisfactory explanation of the reason why those actively interested in the subject of eugenics have directed their energies to the problem of discovering some way of utilizing restrictive rather than constructive principles.

Society is severely shocked from time to time as reports are published setting forth the steady proportionate increase in the number of those individuals who, through disease, delinquency or congenital defect, have become state charges; and though students of the subject differ somewhat as to the causes of this alarming augmentation, all agree that the part played by heredity is enormous. Furthermore, a free circulation of case histories—either exaggerated or truthful, but bad enough at best—describing the horrors of hereditary disease, frequently excites grave apprehension in the mind of the person reading them, lest he himself should become a victim of it or transmit a tendency thereto to his children. Therefore both from an economic and a personal point of view, contemplation of the distressing conditions just alluded to supplies a rational motive for the energy which is being put forth with a purpose of effecting sensible amelioration of them.

For the purpose of limiting propagation of the unfit, two methods have been proposed and to some extent experimented with. These are in substance: Prenuptial medical certification of fitness to marry, and sterilization of the unfit. Legislative support has been proposed for each, but so far neither proposition has met with the success which its advocates had hoped for.

To discuss the former plan more in detail, it proposes to prevent or limit propagation of the unfit, by requiring every one, as a preliminary to marriage, to procure a certificate of fitness determined by medical examination. In their eagerness to secure the im-

mediate inauguration of this remedy, however, its proponents have apparently failed to give due consideration to some of the fundamental principles which govern the effectiveness of legislation. Neither would it appear that the possible secondary or remote results of their proposed remedy had been duly anticipated.

It is generally conceded that a new law which requires a radical change in an established custom or practice cannot be successfully enforced unless those whom it is intended to benefit are able to comprehend and appreciate its advantages; therefore, since under the most favorable circumstances it must be some generations hence before the population in general could be expected to understand the laws of heredity as they are at present understood by physicians, the enactment at the present time of such legislation as above alluded to is at least premature. And in this connection the question may be asked: Is it probable at the present time that any legislation whatever could be enacted which would have the effect of inducing or compelling physicians to make any further concessions to the doctrine of eugenics than they already make? The exercise of full freedom in choosing a husband or wife, or in reaching a decision as to whether the holy estate of wedlock shall be entered at all or not, has long been cherished as a precious prerogative of civilized man. And marriage itself, older than civilization, providing for the natural gratification of the passions associated with the generative instincts, and resulting in the establishment of the home, certainly constitutes an essential element of the foundation upon which our present social structure has been raised. Indeed, it is so closely interwoven with other fundamental factors of the social fabric, such as religion, morality, patriotism, and economics, that any proposed alteration of the institution whatever which might bring about a material decline in the marriage rate deserves the most serious and careful consideration. Logically, therefore, before presuming to advocate the enactment of such a law, its proponents should have made a thorough survey of the whole field of sociology in order to determine to what extent, if any, the terms of their proposition conflict with the action of the various forces which have been most potent in directing social evolution. Few forms of enthusiasm, however, are conducive to patient study and judicious delibera-

tion; processes indispensable to the development of sound legislation.

The sublimity of purpose which prompts the eugenic enthusiast to attempt immediate correction of an apparently grave social error may in some degree excuse his precipitancy; it cannot, however, warrant approval of rash remedial measures or contravene the inevitable disappointment which must attend efforts to enforce them.

It is pertinent to note in this connection that for the enactment of hasty, ill-advised, ineffective, and redundant legislation, our own country affords a conspicuous example. The attempted enforcement of such legalized authority is more likely to disturb or aggravate the conditions it was intended to improve than to correct them; the disorder so set in motion may spread in such a way as to demonstrate the essential interrelationship existing between various sociologic conventions hitherto regarded as quite distinct and independent of one another. And, furthermore, since the advocates of summary legislation in common with others manifesting a lively interest in the subject of eugenics have for the most part reached an age when the force of passion has sensibly subsided, they may be urging the enforcement of regulations to which they themselves would not have submitted in their youth. In fact, at no period of his life is ready submission to constituted authority a conspicuous attribute of the temperamental reformer.

Should society sanction sterilization of the unfit as a condition of their marriage?

Certainly, both from the standpoint of race betterment and that of economics, society would gain much and lose little if the effect of approving the practice of specific sterilization could be limited to the unfit.

Possession of all available knowledge of the laws of heredity, however, coupled with the most exalted purpose of fair dealing would not enable one to draw a hard and fast line separating the fit from the unfit. There must always remain, under any circumstances, a considerable number of individuals in reference to whose proper classification more or less doubt would exist. Thus, owing to the element of uncertainty inherent in the situation, unprincipled members of our profession, prompted by cupidity, would be en-

couraged to pronounce every one unfit who might apply to them for a sterilizing operation. And women who regard child-bearing as a burden put upon them by an unfair dispensation of nature—and there are many such—would be encouraged to make a false pretence of unfitness in order to secure what they would designate the advantage of sterility. No doubt these objections might be met to some extent by requiring the candidate for operation and perhaps the operator as well, to furnish a certificate in each case, from a duly appointed board authorized to pass judgment on the question of fitness. Without, however, speculating as to the probable extent to which the services of such a body might be sought, or attempting to point out the difficulties which might confront them in the exercise of their defined duties, it may be confidently asserted that public sanction under almost any circumstances of a specific sterilizing operation might be construed by unscrupulous surgeons, and those wishing to shirk the duties of parenthood, as in some measure supplying an excuse for their delinquencies.

The question of the birth rate is so intimately related to the subject of applied eugenics at certain points that the latter in some of its aspects cannot be discussed without reference to the former. And it may be stated in this connection that students of economics are from time to time expressing grave concern as they scrutinize the curve of relative depression, which the birth rate in this country is describing. This they attribute largely to limitation of child-bearing among educated women; hence any proposition which carries with it the probability of still further diminishing reproduction of the fit, if it can be entertained at all, must present some very great and obvious advantages. While it would be well nigh impossible to determine by exact methods the consequence of giving the proposed procedure the force of legal endorsement, it might well be doubted if the injury society would sustain by adopting such a course would not far outweigh the benefits which it might thereby secure. It is only fair to state before leaving this branch of the subject that, since husband and wife are for the most part agreed on the matter of family limitations, responsibility for a falling birth rate is divided between them.

Should habitual criminals or criminals by defect be encouraged, by mitigation of sentence, to submit to a specific sterilizing operation?

This latter proposition is quite free from some, if not practically all, of the objections raised against the former. That it sanctions a specific sterilization operation is true; the peculiar conditions, however, under which this approval is given would tend to reduce its demoralizing effect to a minimum. For since candidates would be selected by established court procedure only, no encouragement would be offered unprincipled practitioners for the exercise of venal or selfish motives. And although the number thus operated on might be very small, improvement in our race would vary directly with the frequency of the operation.

Should any one under any circumstances whatever be compelled to submit to a specific sterilizing operation?

To answer this question in the affirmative would be to ignore one of the most widely respected fundamental principles of the doctrine of personal liberty. Present limitation of time obviously prohibits a critical discussion of the soundness of this doctrine, nevertheless it may be casually observed that its universal recognition in civilized countries and the concessions long made to it, support the prediction that proposed modification of it, such as that implied by the immediate question under consideration, would meet with determined opposition.

Recognizing the beneficent purpose which the doctrine of eugenics announces, my contention is that education, using the term in its broadest sense, constitutes the main, if not, indeed, the sole, resource upon which reliance must be placed for progress toward the desired end.

If it be maintained that more definite knowledge is required regarding the laws of heredity, before an attempt should be made to apply it to the problem of race betterment, then special departments of education must be depended upon to supply this. On the other hand if it be assumed that enough well-ascertained facts of the kind in question are already available, then the extent to which education succeeds, in impressing upon individuals the significance of these, will measure the legitimate relief or benefit which may be expected to accrue to society from their application. Movements, however, in the line of progress, which depend for their success upon education of the masses, though usually sound, are comparatively slow; much too slow, indeed, to appease the feelings of the temperamental reformer or agitator.

The practice of those religious orders which require a vow of perpetual celibacy or chastity as a condition of admission to them clearly demonstrates how far the sexual passions may be suppressed or compensated for by exercise of the will. Educational influences may be fairly reckoned as the essential factors which prompt and support renunciation in these cases. Furthermore, instances are not wanting in which individuals of intelligence and character, but with strong hereditary taint, have declined marriage from purely altruistic motives.

Since it has been intimated above that a tendency to shirk the duties of motherhood is peculiarly prevalent among educated women, the question might be asked at this point, if it is not a contradiction of terms to proclaim education as the chief agent to be depended upon to give effect to the doctrine of eugenics. Assuming the truthfulness of the charge against educated or more specifically college-bred women, for statistics upon which the accusation is founded have been furnished by them, it may be mentioned by way of explaining the apparent conflict of statement alluded to above that the delinquency of the women under consideration neither discredits education nor puts a premium on ignorance; it rather tends to prove that the various educational influences brought to bear on these individuals or students, perhaps from infancy to graduation, had not been adjusted with due regard to the importance of maternity.

If wide diffusion of specific education is conceded to be essential to the substantial progress of applied eugenics, then it is pertinent to inquire, What should be taught? How, when, and by whom? These are questions of such supreme sociologic importance that a comprehensive discussion of them might properly reach the dimensions of a volume. Under existing circumstances, however, nothing more can be attempted than to make a few relevant comments on them.

The assertion that all forms of religion seek to regulate conduct according to a scale of rewards and punishments is hardly open to controversy, and it is likewise a matter of common knowledge that the Christian church, more notably certain divisions of it, has achieved eminent success in securing among its members acceptance of the duties of parenthood. But if it be conceded that even in these cases a prospective increase in the family is fre-

quently regarded in the light of an added but inevitable responsibility, rather than as something ardently desired, then it may be safely said that the ranks of population in general are recruited more by an incidental than a planned progeny. This statement of the case, however, assuming it to be correct, is shocking to the sensibilities of the idealist who indulges visions of a period when, from civic considerations, parentage shall be universally recognized as an eminent privilege and a satisfactory birth rate maintained on that basis. Granting the high character of such an aim in common with that proposed by the doctrine of eugenics, the utmost caution should be exercised in the adoption of educational measures intended to promote the ends desired. Existing conditions should be carefully studied before condemning them. The direct and collateral influences which have contributed to their development and maintenance should be investigated. The immediate and remote results of a proposed radical change should be calculated for the purpose of learning how far they agree or conflict with established usage, for the practices so designated not infrequently meet all situations likely to arise much better than they might be expected to do from a superficial examination of them. Indeed, thorough analysis often shows that with only slight modification, or none at all, forms of conduct fixed by custom are those best suited to the needs of the community in which they prevail; to effect provisionally the best practical compromise is the essential problem, since some undesirable results are inevitable concomitants of each and every system whatever. The ambition to discover and point out a better way is certainly laudable; it would be deplorable, however, if in its exercise expedients should be advocated or adopted which might impair the wholesome effects of present methods without supplying compensatory advantages.

Ample sources of information are available to the mature who wish to study the subject of eugenics and cognate branches of science, but the question of disseminating education so widely that the masses shall understand the laws of heredity well enough to yield due submission to them in the interests of eugenics requires that the necessary instruction must be given during school age, not only because this is the period most favorable to the acquisition of impressions which mold character, but since the purpose of this specific teaching is to qualify the pupil to apply his

special knowledge in reference to marriage, he must be prepared to give this subject due consideration when it presents itself, which of course is essentially in early life.

As a general proposition, it will be conceded that the school is by far the most practical agency which may be depended on to insure a widespread diffusion of knowledge; however, since pupils naturally and properly discuss among themselves the topics taught them, it follows, logically, that a topic which should not be so discussed should not be given a place in the authorized list of subjects to be presented. Most people will agree that it is clearly undesirable to encourage discussion of sexual subjects among the young; hence if this is conceded, these subjects should not be presented as class exercises in the public schools. To impart to the young opportunely correct information on various aspects of sexuality is the province of parents and guardians. Such an intimate acquaintance with the temperament, tendencies, and perhaps critical experiences of the young person as a parent or guardian is in the best position to gain, is highly essential in reaching a decision as to the time, place, and nature of the required precepts. And furthermore, the gravity, privacy, and delicacy which naturally characterize these interviews between parent and child make due concession to the beautiful attribute of modesty, while at the same time they tend to strengthen the impression which it is their purpose to make.

It is hardly conceivable that any course of lectures on sexual topics, no matter how carefully prepared, could be presented to a school class as usually formed, without distinct injury to a considerable proportion of its members. Indeed the positive injury society would suffer from the adoption of such a course, would, in my opinion, vastly outweigh the harm resulting from omission, only too common, on the part of parents to fulfill their duty in these matters. Let correction proceed along the line of urging parents to seriously study and duly meet these important obligations; let us not, however, hastily and rudely molest our most precious and venerated possessions; rather let them be carefully reviewed and gently re-adjusted, if need be, to meet the march of genuine enlightenment.

THE TRANSLATION OF SYMPTOMS INTO THEIR MECHANISM.*

By CHESTER L. CARLISLE, M. D.,

Senior Assistant Physician, Kings Park State Hospital, Kings Park, L. I., N. Y.

The foundation of the concept that all our conduct and utterance, whether considered normal or abnormal, is based on underlying subconscious trends of direction, is comparatively modern, particularly in its clinical application. The literature on psycho-analytical investigation is quite ample and the case-records sufficiently convincing to warrant our earnest attention.

In this paper I do not attempt to add cases adducing new and positive testimony to the value of psycho-analysis, but rather to accept as axiomatic that the " why " of a person's conduct and utterance depends upon the " because " of underlying complexes, all linked in many ways with each other, and thus reaching back into early infantile psychic beginnings as continuously and surely as the progress of the lifetime itself.

Assuming then that the everyday life of the adult is dependent upon subconscious complexes of affect value, the dynamic value of which is determined largely in the infantile period, it seemed to me worth our while to determine by similar methods just what complexes were of most significant value in our patients' lives. The main trend of all our lives shaped from infantile ruminations, developing upon the soil of individual personality with its possibilities of neuropathic non-resistance and further subject to the strains of environment, must after all finally center toward some one great wish above all others. Almost invariably this seems to be found more or less closely associated with our sexual longings. If the wish is unattainable, we may bury it in the subconscious (where lie also those things we dare not face) and yet utilize the affect value in work for the world; or we may meet the facts frankly and consciously and attain the wish at any cost; or again

*Read at the seventieth annual meeting of the American Medico-Psychological Association, Baltimore, Md., May 26-29, 1914.

we may be unable longer to bear the facts of life as they are and so retreat into a psychosis.

The analysis of cases from this latter group reveals the unknown affect complex which precipitated the essential conflict of the patient's life.

L. E. D. No. 74423.

Family History.—Complete for three generations. Maternal grandmother epileptic. Mother epileptic. One maternal uncle arteriosclerotic; died of apoplexy. Father neurasthenic type.

Personal History.—Born in New York State in 1880; early childhood uneventful; no convulsions. Graduated from normal school; learned easily and was never left back in classes. Make up quantitatively normal; qualitatively was never very social in tendency, but later was forced to be so as a clergyman's wife; was always sensitive and worrisome, but seemed to be aggressive and did not drift much. No particular change in character after puberty and seemed normal up to time of marriage in 1905. She never had any children and no miscarriages. Had rather high ideals as to care of children and said she would never bring any into the world until she had the means of bringing them up as they ought to be. After marriage it was noticed that she would worry over small matters and if anyone in her husband's congregation acted indifferently she would refer it back to herself in some way. Before marriage her husband had known a Miss Hazard and patient always seemed jealous of this woman. On one occasion made a scene over her because her husband had arranged to have her appear on a programme. This woman appeared only once or twice in the patient's life, and apparently in quite an incidental way, but she always seemed to irritate her. She began to nag her husband more and more and for this reason he gave up pastoral work and moved to a farm. There the patient worked hard and not being associated with other people seemed to get along better. Finally they moved to a small town in 1911, where she had a horse and carriage and drove a great deal and some young men commented upon this. A Mr. Donovan worked in a store where she traded and she thought people made remarks concerning him and herself. In June, 1913, she rather suddenly became very unreasonable; would not allow her husband to light a fire and said, "If you do I will put it out." Began to talk about black and white influencing her; became angry over little things, and at last accused her husband of infidelity, and later, quite unreasonably, wanted him to take a trip to Syracuse, and when he refused to do this she took an axe and followed him around the yard with it. For these reasons she was committed.

On admission to Kings Park State Hospital March 31, 1914: Physically, neurologically negative. Mentally, quiet, compliant, spontaneous production normal in amount. Replies to questions relevant and coherent. General mental attitude consisted of a feeling that she had been talked about in an improper way, but accepted the situation pretty well and was fairly complaisant. Mood is one of mild depression with a feeling of dissatisfac-

tion. Delusions of a persecutory type. Said, "I think I am as notorious as Harry Thaw. I have so much on my mind; I don't know what to say. When we went to Melville to live—two years ago—it commenced. One day I went to the village with my husband and while I sat in the wagon this young man came to the door and I bowed to him; he made motions as though he wanted to be intimate with me; I thought a great deal about him. I thought he wanted to see what kind of woman I was." She found that people knew all about her through the newspapers and pictures and by the day of the week on which they called on her, each day having a special meaning and lending color to their visits. Hallucinations were not demonstrable. Orientation and general mental organization intact. No gross deterioration. Insight partial, realizes the peculiarity of her ideas to some extent, but does not grasp their real significance.

Asked to make free associations, she showed that all her present ideas were related by direct association to a conflict which was based primarily upon the fact that she had never had her wish for children gratified and that she viewed her husband in the light of a man who was not prepossessing physically and who did not support her very well financially, and therefore was a person not particularly acceptable to her. Secondarily to this appears Mr. Donovan as the man whom she desired. She seems to have progressed quite normally through puberty and young adult life. After graduating she was an efficient school teacher, but after marrying her husband things began to go badly. He did not get along well in his church work and consequently they were financially unable to have children. She was jealous of Miss Hazard, whom her husband had taken out in a boat on one occasion previous to his marriage with the patient, and she said, "I carry that on my mind all the time." After her husband's failure as a minister they took up farm life and there she met Mr. Donovan in a store. On one occasion she asked in the store for lard and there was a great deal made over that by the other people. "This was because *lard* referred back to the last syllable of the name Hazard." The people thought that her asking for this lard referred to this girl. "They thought that I wanted her; that she was my daughter and I wanted her. They thought I was in a hurry. Hurry means Her-ry; another meaning, it was passive and I was working and selling things for my daughter." People whistled at the patient. "Whistling was masculine possessive—that brought me out of the hurry I have been in for so long. The whistling meant act—act

in character—act, that refers to act in action—*I was lonesome.* I thought maybe (Donovan) could give me something that might make me feel better—act—I told him I didn't want my character hurt— Away back to the time when I had typhoid fever (age of 13) boy was white and girl was black—they thought because the little white—man was my character, I wanted him because I kept on trading there—I had a *vaginal* discharge—the whites, I haven't had it since.—*I liked White.*" (White was the name she gave to the man in the store.) Later said, "The people wanted to get something on my mind—a boy off my mind—white represents a boy and the girl is black. They thought they would get something on my mind. What was on my mind was that *I wanted a baby.* I told the doctor I didn't feel like opening my mouth so my husband went and told what I wanted—later the trees had been cut from our farm—they thought I didn't like so much sun—that refers to son—because I was *hot.* That refers back to *sexual things*—back to the time when I had typhoid fever—you know how hot and feverish you are when you have that—Later people seemed to think that I had my ***husband*** on the *left* and an animal or a billy goat on the right—that means *big* to my right and *little* on my left. This young man was the billy goat. Now I am risen on the right and down on the left—I have risen on the left and now I am quite smart—the clipping in the paper was a little verse about 'Willie, Willie in a long tailed coat'—that makes me think of billy goat—they thought I had a young man on my mind—billy goat is the young man in the store." White is associated with a vaginal discharge which she had and she says "I always had a scent about me. *Scent* or cent—now they have taken that away from me—I have never wanted to work. I wanted to live in ease and luxury and have lots of love. I always did want lots of love and I want it yet—I had always been young and sweet—I regret that I am old and have an old man on my mind. The whistle (she heard) meant that it was the possessive—the man possessive—the man possessed me and I possessed him. I would have been satisfied with my husband if we had had children." *Dreams*: "I saw the sky and then a large building—it looked like the Capitol of Washington. On the dome in large letters was the word *Perfection.*" Analysis shows that Capitol refers to Mr. *Cappelle.* Washington to George—George Capelle. This re-

fers back to George Allen, who is associated in the patient's mind with Mr. Donovan, the young man in the store, because he looked like George Allen. The word "perfection" means "perfection at last, we will all get it." (What we want.)

It is found also that the patient's unexplained desire to make a trip to Syracuse was because this town was much nearer to Mr. Donovan than Brooklyn. She apparently wished her husband to accompany her in order to cloak the underlying subconscious wish to get nearer the man she wanted and to make the trip appear quite conventional. There are many other associations in this case, but they all lead back to the primary conflict in her life. Superficially she presents simply the appearance of an ordinary case of dementia præcox, paranoid form, with a number of odd utterances which are quite incoherent and irrelevant on the surface, but upon analysis show continuous associations leading back to her desire for a child and dissatisfaction with her husband.

A. M., No. 72026.

Family History.—Complete for three generations. Sister and brother insane. One other brother alcoholic.

Personal History.—Born in Norway, 1889; school record average, but did not thoroughly grasp subjects taught; ability for calculation above elementary exercises limited; mental dexterity normal; always seclusive, but still inclined to be fairly sociable. She came to America when 20 years of age; married and was a good housekeeper. She and her husband were purchasing a house on the instalment plan; his habits were good and on the surface everything seemed comfortable in their married life. In August, 1913, three months previous to admission to Kings Park State Hospital, rather suddenly one night she began to talk peculiarly, saying, "I don't know what is the matter with my father and mother—they have tried to hang themselves." (They were in Norway.) A few days later she got up in the night and said she was dying, became apprehensive, made contradictory statements and on a later night the husband found her looking at him while in bed and she told him she thought he was dying. Following this, she imagined that everyone was down on her, stated that she felt afraid to stay alone in the house and felt impelled to rush out into the open air.

On admission to Kings Park State Hospital November 1, 1913: Physically, was neurologically negative except for complaints of feeling of pins and needles in her back and a feeling of stiffness. Mentally, she was quiet and compliant. Stream of thought was relevant and coherent without formal disorder, but she discussed her case in an unsatisfactory way; denied hallucinations, but said she dreamed that all her family were going to be killed. Her attitude seemed rather apprehensive and she complained

of a peculiar feeling in her throat which she described as a feeling of electricity, and *when she feels this sensation* she *imagines that her husband is dead*. Emotional tone was shallow, but there was a fairly natural affect; several times became emotional and shed tears. Asked to write, *wrote her maiden name* and when reminded of the mistake became embarrassed. Her personality seemed to have suffered a slump, became untidy and careless in her appearance and destroyed articles of clothing. She ceased worrying over her husband, never mentioned her baby and spoke of going home only in any offhand way. Finally in this condition she was deported to Norway.

Probing and free associations brought out the following conflict which was apparently the rock upon which her life made shipwreck: As a child she seemed to get along in an average way, but found that what she learned did not stick very well and she was inclined to drift. She got along very well with her brothers and sisters, but never confided in them particularly and although she liked to go out with companions as a young girl, yet kept her own affairs to herself. When she was about 16 she had her first lover. Said, "I had a fellow in Norway before this fellow I married. I went with the first fellow a year. I had no room to take him in as my bed was in the kitchen where the rest of the family slept; he always wanted to get me alone, but I would always take my girl friend with me. When he came to this country (the man left her in Norway and came to America) his face was all scratched up and I would not go down to the boat to see him off and after that he never wrote me any letters. That was in 1906. I came to this country in February, 1907, and married my man after only three days knowing him. I had been with him a couple of times and later I thought I was in the family way by him. *I would not have married him if I had not been in the family way by him.* My brother's wife saw my first fellow and he came to the house, but she would not tell me because I was going with Charlie (husband). In 1910, after I was married, I went home to Norway and there I saw the first fellow. He talked like a fool—said he was going to drink and jump in the water (for love of the patient)—said he had a girl in the family way then and she had no home—and I told him to marry her and he did—I felt kind of bad when I seen him."

After the patient returned to the United States the second time from her visit to Norway she had given up her lover, as she had

told him to marry another girl, but she always thought about him a great deal and always with a certain amount of longing. Essentially it seemed that he was the man whom she wanted for marriage (her wish), and after this affair was broken off because she would not go out with him when he wanted coitus, she wrote him letters which he did not answer and then she came to the United States, and began to have intercourse with Charlie (her husband), but she says she would *not* have married him if she had not become accidentally pregnant by him; then a miscarriage was induced (but she did not worry over this as it was a *desired* thing). She married and a child was born in October, 1909, and died 18 months later of spinal meningitis. A second child was born in November, 1912, and the patient was glad to have this baby, so she said, and was all right mentally until she went to live in the country about June, 1913. There she was alone a good deal while her husband commuted to the city. Strange ideas began to come to her "that everybody was dead." She saw a cartoon in the paper and thought the figure was that of her father and interpreted it as being that her father was in jail. She had a fear of the inside of the house and wanted to be on the *outside*, which is explained on analysis by the fact that when she *lost* the first baby the doctor told her to be on the outside (out of doors) as much as possible. Then when her second child came along by the undesired husband and forged another link to bind her to him, she developed a fear of being in the house. She *wants* to be under the same circumstances as she was when the first child *died*. She *wants* to be outdoors as that *symbolizes freedom* to her in relation to her undesired husband. On the surface, she worried because her husband commuted to New York and thought this was a terrible distance and was afraid he might be killed by the cars, this evidently being a defense reaction to ideas that she wished to be rid of him (such ideas not being acceptable to her personality).

The symptoms of this case, from a purely formal standpoint, show odd thoughts and actions with gradual deterioration of the mental organization and dilapidation of the personality. When the facts of the patient's life are carefully investigated and free associations are made, it is seen that all her peculiar utterances and eccentric acts refer back to a strong, central affective complex; the old wished-for lover and the unsatisfied longing for him in

conflict with her present situation, in which she finds herself married to a man whom she had taken merely for conventional reasons to cover her quite incidental illegitimate pregnancy.

B. E. P., No. 73810.

Family History.—Complete for three generations. One maternal uncle seemed bright, but was a loafer and sponged on his family. Mother nervous disposition; worried over small things, but was easy going in larger matters.

Personal History.—Born in New York, 1890; early life entirely uneventful; seemed a perfectly normal child and began school at six and attended high school, but did not graduate. She was ordinarily intelligent, seemed interested in her work, liked to draw, but did not apply herself very well, and was left back in her classes a couple of times. Make up seemed quantitatively normal; qualitatively was easy going; always seemed ready to mingle with other people; was bright and jolly, but was never very much attracted by men or boys and had more girl friends than men friends. She associated with no one particular friend (girl) however. After puberty her disposition did not seem to change and even when she began to meet men more concretely later she did not seem to change particularly. After leaving school she stayed home and did the housework for a while, but never did very much and never seemed to go ahead and plan things, but what she did do seemed to be done well. As she approached the age of 20 she went outside to work and assisted with clerical work in an insurance office, where she appeared to be satisfactory, but was let go with a number of other girls when the office force was reduced and then took a position as a telephone operator. Her work was well done and she stopped working only two weeks previous to admission to Kings Park State Hospital. In December, 1913, while working in the telephone office, she began to have queer thoughts, which seemed to come on rather suddenly. She told her brother about these thoughts and wanted to know if that was the way you felt when you were in love, but did not give any definite information until a month later, when she said to him, "I am not just right; I have had peculiar feelings; there is a certain young man that I have been having some thoughts about. I feel depressed. When his face is flushed, my face is also. One day when I was in the hall a girl said to me, 'That man is nice; why don't you see what you can do about getting him?' Tell me, am I in love? Is that the way you feel?" Two days after this interview she stopped work, went home and conducted herself in an orderly fashion, but seemed preoccupied and walked up and down a great deal. A week later she became rather uncommunicative with her family and seemed sullen and ungracious when they spoke to her. Finally said, "There is something the matter with my head and I want to have it cleared up; my folks are watching me and won't let me out alone." She then made voluntary application for treatment and was admitted to Kings Park State Hospital February 11, 1914.

On Admission: States that she felt nervous and depressed without known reason; that her ears rang and at times she hears voices; peculiar

thoughts come into her mind unbidden and exert a great influence over her conduct. Physically, complained of numbness in her hands and feet; otherwise neurologically negative. Mentally, general behavior was quiet, compliant and accessible. Inclined to be a little suspicious, but made a rather favorable impression on the whole. Stream of mental activity showed answers to questions relevant and coherent. Spontaneous production was normal in amount and content. Her mood was one of mild anxiety over her condition, but little real depression or tension. She could smile readily, yet at the same time did not appear particularly happy. At times was inclined to be a little impatient with those around her; emotional tone seems intact. Her trends were along lines of influence. She thinks she has been forced to move when a certain man came around and has been forced to think all sorts of thoughts, many on sexual lines, associated with visions. Immoral ideas have been intruded upon her. Thought a man in the office where she worked put her in a trance every time he came near her and that he controlled her movements. Visual hallucinations had occurred; she had heard distinct voices; also had smelled chloroform while in bed and tasted peculiar things in the food. Purely mental functions, such as orientation, memory and general grasp, were intact. She gave the impression of a person who recognized that her ideas were abnormal, and yet because of their intensity and the emotions that went with them had been unable to convince herself that they were entirely unusual, and in that sense clings to them, although asking for treatment.

An attempt to get at the underlying complexes in this case reveals the following:

As a child she seemed to have shown little out of the ordinary; she did not block or show marked resistance at any one point of her whole life and seemed to have developed along fairly normal lines without any very definite introversion. As she was approaching the age of 20 a young man attempted sexual intercourse with her, but she did not let him accomplish this, however. She did not seem to worry very much and in fact went calmly to bed afterwards and complained simply that she felt a little nervous and restless that night and could not sleep well. After that she went ahead with her usual plans and only when she fell in love with a man whom *she actually wished to have* and he did *not* propose did she begin to ruminate over the situation; sees his nude body exposed; feels like proposing to him; hears his vioce in endearing terms and was conscious that she would be willing to do anything for him that he wanted her to, whether she were married to him or not.

Excerpts of her statements on free association show the following:

I knew a young man; I was very fond of him and I thought he liked me. I had never had any actual sexual experience with men. At home I grew up with my brothers and sisters and we seemed to learn about these things quite naturally. Of course I saw pictures and statues and knew there was a difference (between men and women), but I never thought much about it. When I was 20 I was up in the Catskills and one time a young man attempted improper conduct with me and I repulsed him. I was always able to take care of myself, anyway; I didn't sleep much that night, but it didn't affect me except that it made me feel a distrust for men and I thought they only wanted you for one thing. I had no special ideal of men. I was working in an office as telephone operator; there were other men there and this young man I liked worked there. Christmas night (1913) I had felt very happy that day. I went to bed about 10 o'clock, then a lot of thoughts came in upon me; I thought I noticed that I felt compelled to say things to other people, like the people I was making out policies for in the office. This feeling came like a thought that would sound in my head like a voice. This voice came particularly when this man was in front of me; it seemed as though he were putting thoughts into my head—thoughts of him in relation to love and marriage and all that went with them, and later, incidental thoughts, such as go and get a drink of water—it seemed to me as though I felt that love were taking my senses away from me. This trance voice sometimes told me to do improper things to others. I began to mistrust the men in the office and felt that some of them had designs on me to make me bad. That Christmas I saw some visions—pictures of men in exposed conditions. I saw them in the daytime, right in the office and thought they were at the side of me. I also at such times heard a very distinct voice which just wanted to embarrass and bother me. I saw my lover in the vision—he exposed himself—I would be frightened and that's the way I knew something was the matter with me. I have had all the sensations that go with love; these happened when I was home in bed. I was sleeping with another person in reality, but he seemed to be near me just in spirit, but I had all the feelings. I had feelings that shot through me once, for two days in the office, they seemed like vibrations, perhaps more like electricity, all through my body. (They struck her sexual organs, but did not originate there.) I felt a fear and thought he was coming after me. This happened one day about the 1st of January, when I was at lunch with him. I answered his voice which asked for me and said, but not out loud, "you can't have me." I liked him and it seemed strange that I should say that he couldn't have me, because I had always been ready to do anything for him if he had asked me, whether we were married or not. He knew that I liked him, but he never tried to do anything detrimental to me in reality; but when I heard his voice or saw these things, he could have done anything with me. I had no distaste for him; there were lots of other little things. I liked purple and always wore a purple dress and one day he wore a purple tie and when I saw it I said, "When you are through with that tie, you can give it to me." I don't know what made me say that. (Disguised expres-

sion of subconscious fetichism.) One day I was conversing with him and he said he didn't have enough money to get married on—I don't just know how the subject was brought up—and so he couldn't ask anyone to marry him, and I felt like saying, "*I feel like asking you to marry me.*" (Projection of the wish in the form of conscious impulse which was restrained in this instance.)

This case represents essentially a badly managed situation in which the wish fulfilment could not be brought about in reality and the psychosis developed as a substituted reaction, characterized by symptoms representing the projection of internal ruminations. Whether readjustment is entirely possible is questionable, but the reason for her peculiar conduct is at least thus explained.

H. E. R., No. 40202.

Family History.—Complete for three generations. Mother insane; father very religious.

Personal History.—Born in Ohio in 1864; made the usual progress at school. Make up quantitatively normal; fond of entertainment, but worried rather easily. At the age of 19 married a printer and seemed an efficient housewife. At about the age of 33 she suffered a depression which was brought on by so-called domestic trouble and developed ideas of persecution. She became resistive, was mute and required tube-feeding and was treated in a sanitarium for three months and then left unimproved. Two months later she was admitted to a state hospital, where she remained for about a year. While there talked loudly; showed delusions of a religious nature; talked of the Lord taking her speech away and became mute. She improved and appeared to abandon her delusions and was finally discharged after a residence of nine months. She remained at home for 11 years and her husband considered her quite well in this interval. Then rather suddenly she became excited and expressed ideas of a religious nature. She was again admitted to a state hospital in May, 1909, and remained there until September, 1911, when she was discharged improved. She remained out for about two years and then began to act queerly, but was able to remain at home, looking after her household duties to a certain extent. Six weeks before coming here she witnessed an operation on her nephew for adenoids which greatly upset her and she began to react to hallucinations; imagined that some one was telling her to get away, so she wandered from home. This caused her commitment.

On admission to Kings Park State Hospital, November 19, 1913: Physically, fine intention tremor of tongue and fingers; otherwise negative. Mentally, was apparently laboring under some pressure of speech and seemed elated, showing a tendency to elaborate her answers. Trends are not very well systematized and show ideas of persecution, with auditory hallucinations. She laughed a great deal, but again would show no emotion when discussing such things as the death of her mother. Thought she had been poisoned and expressed queer ideas about not having had earthly parents,

but having been placed on earth by God. She spoke about babies a great deal and of performing miracles. She continues to reside in the hospital unimproved.

On probing and after allowing the patient to make free associations and also by taking note of her spontaneous production for a considerable period of time, it is found that the affective factors in her life are as follows:

Her childhood seemed uneventful; she was always fond of entertainment and was greatly interested in her home life. Whether any change occurred at puberty we are unable to ascertain, and no definite period of introversion is demonstrable. She married a printer when fairly young and on the surface their married life seemed to be fairly successful. She never had any children. She brought out in her talk (referring to her husband) "that he was a poor (soft) fellow," then apparently to counterbalance this, consciously said, "to know him was to love him," and concerning his family said, "they were a lovable family, affectionate and loving; every Sunday they would sit down and sing a hymn before breakfast; loving and true and generous." Concerning children, said, "I would have liked to have had children and I heard a voice say 'God will show them to you some day.'" She never had any children and said, "I know; I was told that some day God will show me the little ones that would have been born if I had not been meddled with." (Uterus was curetted at the time of her first admission to a state hospital.) She had felt worried and depressed previous to this operation in February, 1897, and following it seemed to become worse and developed her first psychosis. She followed her husband to business to satisfy herself that he was her husband (beginning of unreality complex), and soon after this made repeated attempts to drown herself in the bath tub; thought that her husband was not her husband but a spirit, and that God knew where her real husband was. Said "spiritual people put everything in my body and made it hard" (rubbing her abdomen—pregnancy complex). Thought the people around her were spirits; the nurses changed into her husband at times and the doctor knew all her thoughts.

The active psychosis subsided and after about 11 years developed again after having had a disagreement with a family who lived above them. She had had no children in the meantime and

again made attempts on her life. Said " my husband and I lived so happy, only that woman (the woman who lived above her) came into the house and took my insides out." Talked with the Lord and thought that her husband was not her real husband. This idea led back to a complex developed in the patient by the fact that her husband had been named as co-respondent in a divorce suit shortly before this time.

Her wish for children was still denied. Evidently she felt that she was fighting an irreparable situation, and, being unable to readjust herself with the facts, developed a psychosis in which the idea of wish fulfilment was plainly expressed. At the time of her admission to Kings Park State Hospital November, 1913, she presented a florid delusional picture, in which the predominant idea was that " she was the baby replenisher of the earth," and at the same time justified the peculiarities of this delusion by saying " people followed and abused me all my life since I was a little baby—since God put me on earth—I was good, a little capable, they saw the spirit in me—I have an idea that it is nationalities, at times Irish. They didn't understand to be quiet and not to interfere with people. Little voices (baby) come from purgatory, God's voice speaking to His baby replenisher."

The psychosis advanced to the point where she lost contact with reality to a considerable extent, as shown by her ideas and also by her attitude. She now has found the fulfilment of her wish in partnership with God's plans. He tells her " I will never leave you, baby replenisher—my husband (who was unable to impregnate her) has taken on a new house and the woman who was supposed to live there was named Jesus Christ. I was next door—I thought I would never room with my husband again (she refused coitus with him on account of his supposed infidelity)—you know what I mean and a little voice said ' you are to be God's baby replenisher '—I have had no intercourse with my husband since I was taken away four years ago. I never suspected my husband until these bad times, when the women were paying money and grabbing things (referring to husband's supposed infidelity). I don't like to listen to this; it hardens the germ in me—little people that God gave me " (pregnancy complex).

The case illustrates a conflict involving sexual life and primitive instincts; wherein definite wishes were impossible of fulfil-

ment and the reaction took the form of a retreat into a psychosis, where the wish was fulfilled in a satisfactory manner, but with great dilapidation of the surface personality.

M. C., No. 72564.

Family History.—Complete for three generations; mother irritable.

Personal History.—Born in Russia in 1886 and came to the United States when 2 years old. Attended school from 7 to 14 years and afterwards learned stenography; record good; never left back in her classes and learned easily. Make up, quantitatively normal; qualitatively irritable, rather inclined to keep by herself, or was at least not at all aggressive about going out with others, but would let them go to parties without her. As a child she played well with other children, but was excitable and highstrung and quick to take offense. Efficient as a stenographer. Puberty at 12; she felt a little more inclined to stay in the house after that. Married at 20; had a child a year later with a normal puerperium. Married life happy for five years; then her husband's business required him to be out at night and she was left alone a great deal, which made her nervous and she did not like it. Her father had died in the summer of 1912 and after this she began to have bad dreams. In November, 1912, she ran out in her night dress and telephoned for her husband to come home. Then she began to have periods when she would throw herself on the floor and cry and act peculiarly. She would get one of these attacks if she worked, because she always worked as if under pressure and moved around very fast. She would not say much during the attack, but would weep loudly and afterwards always felt quite depressed and flat. She did not like her mother-in-law very much, but had no open trouble. About seven months later, in May, 1913, she developed indigestion, which grew worse; began to think she had a cancer in the stomach; did not want to eat, and about October 1, 1913, rather suddenly became listless without any very definite upsetting factor and *lost all interest in her home.* When actually asleep she would think that she had not slept. Attempted suicide and became angry because she was watched and asked to be killed. Then following that developed the idea that her body was dead, and was admitted to Kings Park State Hospital, December 1, 1913. There her general attitude showed depression, but she was passive and compliant; spontaneous production was normal in amount and her replies to questions were relevant and coherent; showed a little tension and some agitation. Trends were all along ideas of bodily change with a mood of despair, believing that she will never get well. She showed the beginning of loss of contact and unreality syndrome in that she did not seem capable of experiencing pain and pleasure as she formerly did and things appeared changed. Pleasure left her unaffected. She seemed rather suggestive and said, "I thought I had ulcer of the stomach; I used to get these pains and a woman told me her husband died of the same thing and that gave me a terrible shock. I tried to keep my mind off it, but I used to get frightened when I thought of it." Later, when a physician gave her a physical examination, she came to the conclusion

that everything about her was dead except her heart. This was because he turned round and whispered to her husband and said, "she will be in darkness (grave) in four months." There was a feeling like shocks of electricity in her genitals; this happened only recently. She has continued depressed and required tube-feeding. Emotional tone on the whole is intact and in accordance with her ideas, although she has become rather *indifferent to her child* and is able to discuss the fact that she could die and leave the baby to the care of the father without any extraordinary emotion and says, "what has to be, must be." Purely mental functions, such as orientation, grasp and the like, are intact.

On probing it is found that she seemed to be perfectly normal until puberty and then suffered a slight introversion with increased seclusiveness, which, however, did not prevent her from going ahead with her work in the world, finally marrying for conventional reasons. She has always been quite fond of her father. At the age of 15 she began to practise masturbation at the suggestion of a girl friend and practised the habit up to the time of her marriage. She performed it on herself up to the age of 18, when she began going with the man she married. He used to place his hand upon her genitals, following which she obtained the same sensation and did not masturbate after that, although permitting him to do it. She married about a year after that, but did not have any extraordinary affection for her husband, but accepted the marriage in a purely conventional way. However, she did not find sexual relations disgusting and in a general way it may be said that her sexual adaptation to these concrete factors was pretty good. There was, however, some friction with the mother-in-law and the patient felt that she did not entirely approve of her. She did not seem to be wholly satisfied with her husband, but justified this to herself by saying that she feared that she was not a satisfactory wife to him. Finally, the husband was away from home a good deal at night and when left alone patient said she felt nervous and *desired to masturbate*, but did not do it. The flight from the house in her night dress in one of these struggles against masturbation probably represented a flight from temptation not acceptable to the personality. For this reason she went to the neighbors to telephone for her husband to come home. She was troubled with bad dreams from which she often woke up with fright. Said of the dreams, "I was nothing but hearses and in one dream I saw a crowd and they said that a young

girl had died. I thought it was a woman, but I couldn't tell what she looked like—the people seemed to be saying it was a shame, she was so young and had to die. I seemed to be on the sidewalk looking at the hearses—my husband wasn't there."

It would appear that the dreamer was both an onlooker and the persona dramatis. Her burial symbolized a means of getting away from her husband and his family. Told to write her name and address, she began to write her *maiden name*. (Expression of subconscious affective complex in trivial ways.) She noticed the mistake as soon as she began and crossed the letters out and finished with her married name; remarked that *she thought it was odd she should do such a thing*. When asked to write her maiden name, showed much *resistance* and *refused* to do so. Later, developed marked unreality syndrome in which all things were changed; her husband does not care for her; her body is dead; her bowels do not move, etc. There were many ideas of unworthiness and self-renunciation which seemed to be an atonement machanism. This caused intense pre-occupation at all times.

This case is not complete, but, in the light of psychoanalytic experience and the literature on the subject, there is pretty conclusive evidence that her husband was not the sort of man she desired, and associated with this was his family, which was also distasteful. There is here an unsatisfied wish fulfilment and the psychosis represents an attempt to get away from an undesired situation and explains why she could talk about leaving her baby (the child of the undesired husband) or her own expected death without much emotion, because all this agreed with the mechanism of a plan to get her wish. Superficially her mood is one of depression, but essentially is one of dissatisfaction. In view of the fact that the psychosis is dependent on her marriage, a situation hard to change in actual life, the outlook must be clouded and the question of final readjustment will depend, not only upon the patient's attitude, but the husband's acceptance of facts as they are and the willingness of both to alter them if necessary. Certainly she is laboring under a strong affective conflict and even in her conscious life she endeavors to repress the complex because it is not acceptable to her personality. "I am trying to forget these things." The feeling of cancer of the stomach was simply a convenient hook upon which to hang all her ruminations about death,

an incidental and acceptable idea to which was transferred the affect of the fundamental sex difficulty complex. Cancer and death symbolized a getting away from the man she did not want.

E. B., No. 72593.

Family History.—Complete for three generations. Paternal grandmother alcoholic. Maternal grandmother had epilepsy for three years at about the age of 61 following a blow on the head. Father alcoholic, immoral and thought to be of inferior type. One brother died of paralysis at the age of 16, type unknown; no trauma; onset sudden; bilateral, involving legs and sphincters; not accompanied by pain; died in three weeks after onset.

Personal History.—Born in Pennsylvania in 1890; instrumental delivery. Never had any convulsions or severe illnesses; made a good school record. Make up, quantitatively, normal; qualitatively, said to be sociable, but was stubborn and hard to control at home and later became wayward. After leaving school she lived with her parents on a farm. At the age of 16 they moved to New York, where she secured a position as telephone operator and was successful in it. She became infatuated with a coachman of a flashy type, who for four months called on her at her own home. Then the mother interfered, the daughter became enraged, bit her mother and decided to leave home and board with a friend of the family. It was after this move that she had illicit intercourse with the coachman, who refused to marry her, and she is believed to have practised perverted sexual acts with him. She continued these relations for four years and then became pregnant and an abortion was induced with resulting peritonitis. This was in the early part of 1911 (two and a half years before admission). Following the abortion, she went to live with her mother and did not see the coachman. He is supposed to have filled the patient's mind with many rumors concerning her family. Following her breaking off with the coachman, the patient masturbated almost continually. She became very irritable and quick tempered, but all the time was apparently a successful telephone operator. She developed a strong dislike for her mother and for a certain man who boarded with the family, and stated that this man was alienating the affections of her mother. She kept a diary in which she used obscene language and applied immoral names to her mother and accused her of illicit practices. She finally struck this man with a pitcher, which led to her commitment. Her predominating idea seemed to be "a wrong to be righted" and she wrote to the President of the United States and other noted men for this reason.

Admitted to Kings Park State Hospital December 12, 1913. Appeared depressed; did not eat or sleep well; wept frequently; stated that a man living at her house had some sort of influence over her and keeps her uncomfortable and unhappy; believes this man is intimate with her mother. While she was carrying a pitcher, he stepped into the kitchen and she immediately lost control of herself and struck him over the head with it. Said that this man and her mother have shattered her ideals of life and driven her to foolish actions.

Physically, well developed young woman; cold hands and feet; rectal fistula and infected umbilicus. Mentally, she was quiet, compliant, fairly accessible and showed no very odd reactions in her general behavior. Stream of talk was relevant and coherent. General mental attitude; a feeling of depression on account of her surroundings; has ideas of reference and a feeling of guilt. Admits living with this man for four years illicitly and having had an abortion performed. Said that this man told her tales concerning her mother; that she was not conducting herself in a proper way with the man boarder. Ascribes her outbursts of temper to injustice which has been done her and expresses resentment against the alienation of her mother's affections by this man. She has read a good deal and ruminated over rather abstract topics; lately the subject of eugenics has interested her a great deal and she has felt that she could never have healthy children, this again being a source of worry. Mental organization was intact; showed no memory gaps; orientation good; insight fair. Her personality was quite pleasant and she showed no compromising reactions for several days, and then quite suddenly attacked another patient absolutely without adequate cause, saying that she "did not like the ring of the other patient's laugh and that she would assault her so that she would not remember what she said." This she did and at the same time said, "now, maybe you will believe in God—call all your little ghosts around you to help you" (referring to ideas she had heard the other patient express). She said this patient's (Mrs. C.'s) talk reminded her of her brother's death. After that she got along very well for a couple of weeks, then attacked another patient, Mrs. J., threatening to kill her, saying, "last night she was trying to find out why I was here and it is none of her business." She quite calmly prepared to deliver an assault on Mrs. J., for which reason she was removed to another ward. Later she stated that Mrs. C. (the first patient whom she assaulted) used to look at her legs and from that she knew that she was reading her thoughts and that her look meant that she must overcome the ghost fear. About this time she became quite sure that she heard God's voice. "First a man's voice, then the gentle voice of God in contrast." After three months her interests had narrowed down and she constantly misinterpreted the actions of others. Feels that the doctors and others are unusually interested in her and displays affective reactions when certain names are mentioned to her, concerning whom she has elaborated along sexual lines. She cuts out pieces of poetry concerning the "Hidden Life," "Companionship," etc., showing a tendency to ruminate along vague abstract lines. She showed a good deal of blocking and marked amnesia for childhood experiences.

Free associations on the part of the patient bring out the following upon which her symptoms are based: There was evidently a good deal of conflict between the mother and father, the latter being alcoholic and immoral, which may have given the patient childish fancies of a disagreeable type. She said once that she

had always been more or less irritable. She has ruminated from an early age over sexual matters and sexual realizations. These fancies increased following the beginning of menstruation and she recognized that she was unusually well developed for a girl of her age and rather better looking than the average. She was sure of this by the time she reached 15 years. At this time she fell in love with the boarder in the house, Mr. D. C., but he did not reciprocate. Then met another man, the coachman, concerning whom she had a quarrel with her mother, at which time she developed an exaggerated sense of anger and left the house to become the common law wife of this coachman. (This probably was something in the nature of a compensatory reaction, as she felt that Mr. C. D., the man whom she loved, did not care for her at that time.) After several years the coachman wished her to become a prostitute on the street for him. She became thoroughly disillusioned and returned to her home. In the meantime Mr. D. C. had continued to hold his charm for her, but on her taking up her residence with her mother she found him in rather compromising situations with her mother, for instance, being in her bedroom, but stated that she never saw him in an actual adulterous act. The situation at once aroused the ancient affect complex, this being the man she loved, whom she could not attract and who never had seemed to want her. She still loved him, but at the same time hated him not only for his making love in the abstract to another woman, but this hatred was intensified because the other woman was her own mother. She became depressed, contemplated suicide, but desisted at the last moment because she was afraid of what she might find in the next world. Then, while she was torn by these conflicts, one night Mr. D. C. came into the room where she was and she said, " it was a case of either hitting him or of throwing my arms around his neck and—I hit him." Contemporaneously Mr. D. C. had been throwing up to her the intimacies she had practised with the coachman and called her a bad name (which she consciously attributes as the reason why she threatened him with violence).

The present upset seems to be largely in the nature of difficulty in making adequate adjustment to an intolerable and yet unchangeable situation. She felt that Mr. D. C. would never love her; that he had ruined her mother; that by her own foolishness with an-

other man she had lost her good looks and her prospect of marriage, and finally Mr. D. C., whom she loved (who was the person for her wish fulfilment), spurned her. She could now adjust herself to the situation no longer. It was for these reasons that, when little incidents, trifling in themselves, occurred, like Mr. D. C.'s coming into the room, she suddenly became assaultive and acted in a way seemingly out of proportion to the moment. But when the conflict is analyzed, it is seen that there was adequate reason for her conduct. Her ability to make further readjustment has been destroyed and as a result she sees meanings with personal reference in the acts of all people and shows a tendency to a vague scattered form of spontaneous thinking, speaking and writing, throughout which runs a sexual undercurrent. Recently wrote, " last night I had one of those wet dreams, result of going to bed too early, excess vitality in other words. I know you are shocked at me, but I can't tell these women doctors; it eats to the quick to talk about such things as that to one of your own sex."

J. C., No. 72048.

Family History.—Complete for three generations. Father alcoholic; sometimes talked queerly. Mother over-sensitive and nervous. One maternal cousin " over-active and destructive," was considered insane. One maternal uncle alcoholic. One sister died aged 3½ years with convulsions.

Personal History.—Born in 1892 in Italy, of peasant parentage, and came to America as an infant. Is said to have had little opportunity to go to school, but was dull when she went and was left back at least once. After leaving school she became a factory operator on collars and cuffs, making only small wages and is to be considered quantitatively inferior in make-up. Qualitatively she was seclusive, subject to the " blues " a good deal and seemed easily frightened. She drank wine occasionally with the family at meals. Seemed to get along fairly well in a general way until about the age of 19, when she began to grow more or less untidy in her habits; would stay in bed for days at a time and made no attempt to do any kind of work for eight months previous to her admission here. Her mood varied and at times she did some shouting and screaming and apparently was apprehensive of harm.

On admission to Kings Park State Hospital November 19, 1913, indifferent and apathetic, but had periods of excitement, when she would shout and scream, saying that she was " unable to control herself." Physically, neurologically negative. Mentally she was passive, apparently somewhat indifferent, but showed no very unusual reactions; seemed mildly interested in what was going on, but made no comments. Stream of mental activity; spontaneous production limited. Replies to questions were relevant and coherent; said she had been sick a long time. " All the doctors knew was

that I was afraid of pain—I was afraid of their hurting me— they didn't know what was the matter." Again said, "I always thought of holy things —I didn't seem to be like I was before—now I don't know how I feel; I don't know what is going to happen." Showed no agitation and seemed quite resigned to her various fears and phobias. General mental attitude, ideas of fear of harm befalling her, fear of passing over water, and fear of going on the street. Mood on the whole, one of mild indifference. She seems unable to grasp the true affective relationship of things. Emotional tone could hardly be said to be intact; shows certain inconsistencies, as "I suffer a great deal in my mind" (and yet shows no especial affect while saying this). Trends were not well defined or systematized; she wished to stay in bed a great deal and was afraid of things in an indefinite way; could not at first describe her feelings. Orientation for time was defective, owing to inferiority; for place and persons fair. Grasp somewhat impaired, but no great degree of deterioration could be said to exist, but there was defect in grasping events as they go along. Insight partial; efficiency impaired.

From the formal standpoint, this case presents little of interest. She gives one the impression of being simply inferior and rather stupid. On looking into the case from the standpoint of analysis, we find that as a child she soon learned that she was slow in doing things and began to feel nervous and afraid for fear of censure. She liked to stay at home better than going out and playing with others and the same has continued throughout her life. She felt much of the time as though she had the "blues" and always felt apprehensive and afraid. She is a devout Catholic and has had religious dreams since she was six years old. These dreams began before she learned to masturbate, but there always seemed to be something on her mind of a sinful nature and she feared she would lose her soul. (There is a period of childhood amnesia which could not be reached probably covering some early complex which may have been the antecedent for the masturbation habit, and the religious dreams were in reality subsequent, rather than prior, to the masturbation habit.) As she grew older, this fear of losing her soul continued and she went a great deal to confession, but did not get much good from it. Finally, when she grew old enough to work, she became so nervous that she could go to confession no longer. When she was about 16 she went to church on this account; she was suffering from "a very nervous strain;" suddenly she had what seemed to be an intense shock through her body and head. She said, "I used to go to the mis-

sion church and the man there scared me; he used to talk about such terrible things—about judgment and such things—I had my mind on religion—I thought I ought to do the will of God and go to church—I had committed all sorts of sins against God." Also she had received some strong impression from a doctor early in life. She said she was always afraid of doctors. Said, "I was afraid of pain; I was afraid of their hurting me (the doctors); I suffered terribly before—when I walked around the rooms; I felt so unnatural, so strange—like somebody suffers all the time and they can't get out of it—I was afraid some one was going to harm me and I was afraid when I passed over water I would get drowned—I was afraid of fire—that if the building got burned up I thought I would get burned up too—when I was 12 years old I was frightened by a man—he took me in a dark place; he just put his arms round me; he didn't do anything to me, but he held me tight, and when I started to scream he let me go."

Probing concerning her fear of doctors, she said, " when I was 9 years old the doctor made my vaccination, but he didn't hurt me—when I got big, about 15, I got afraid of doctors—I was afraid they would hurt me, torture me, cut my arms and legs off and make me suffer (apparently elaboration of infantile ruminations over vaccination). Her mother had whipped her because she had talked and laughed with boys when she was about 14. She had had visions. She saw the Blessed Virgin, who appeared once for a moment and then vanished; " she was dressed in blue and white and swords were in her heart (just as in the picture)."

It appears that she wished that God would forgive her because she was afraid she would die and lose her soul; because she had had bad thoughts about people and her own self (masturbation). She prayed about other things, such as to be delivered from stealing. She had practised masturbation since a child and knew it was wrong and the idea of stealing probably represented a transference of the affect to a more acceptable form of sinning than masturbation. She said she had masturbated ever since she was six years old. Concerning a dream she said, " I saw heaven and there was a bar as if heaven were barred and the Blessed Virgin talked to me. That was before I ever did anything and I dreamed of the infant Jesus, just as if he were calling me and I had a bad conscience."

The patient is a childish, inferior type and the wish in the latent content of the dream is apparently the same as the wish in the manifest content as in the case of a normal child. The case shows the insight that can be gained into the conflicts of even rather inferior types of patients when we find them accessible and able to co-operate.

All of the preceding cases were those in which a formal diagnosis of " psychosis allied to dementia præcox " was made. Subsequent developments have seemed to justify this diagnosis, as the patients are showing more and more difficulty in making adjustments and consequently dilapidation of personality has begun. The next few cases are those which belong to a somewhat different type of constitutional reaction.

P. A. W., No. 73253.

Family History.—Complete for three generations. Maternal grandfather seemed a little queer and had a bad temper. Maternal grandmother was neurotic, but lived to an old age. Father was subject to attacks of the "blues"; was a fairly efficient coal salesman and was never considered insane. One brother lacks ability for concentration and cannot seem to apply himself to anything; does not want to work.

Personal History.—Born in Michigan in 1879; birth was instrumental. School record average; never left back. Make-up, quantitatively, normal; qualitatively, was idealistic; never contented in her home life; quite intellectual; worried over her own faults; was not anti-social and liked company. She was inclined to fret over small things, but was an efficient housewife. She married in 1901; had one child; living, none dead. Two miscarriages without special incident.

First Attack: Following childbirth in the spring of 1903 she became depressed about the first of May and throughout that summer thought she was eternally damned and wished to shoot herself; finally taken to a hospital in August, 1903, where her general mentation was clear, but she feared there was little hope for her on account of her thoughts of suicide. She worried and occasionally cried about her baby. Discharged November, 1903. "Acute melancholia; recovered."

In the interval of ten years that has elapsed she was considered "nervous" and would get "worn out" and would have spells of "nervous weakness," during which she was all right mentally, but there was a good deal of lying down and she had to "push" herself to get through her work. However, she got along until November 1, 1913, when a sneak thief got into the house when she was out and took a few things. On November 2, the first night after the burglary, she did not sleep and the second night after the theft she woke up with a nightmare, crying that her husband was being murdered by a burglar, but whom the burglar looked like she did not say. She calmed down and slept, but on the following day showed

fluctuations on her moods; said she had been a drag on the family and should have been born dead. The family noticed she did not get into the spirit of Christmas (1913) very much and on January 1, 1914, she began to speak of thought difficulty and seemed preoccupied. She thought of suicide and once got hold of an old revolver and thought of having it fixed up to kill herself; later thought of going down to the ferry and jumping into the water; then rather suddenly came to the conclusion that the country would be the best place for her (away from her city home). She thereupon went to a suburb, but said she was *too near home;* did not think it was far enough away, and for this peculiar reason returned home unexpectedly about January 15 and started to do her housework. Then suddenly packed her trunk and *arranged* with her husband *to go far up the country.* The day for her departure came, but when he met her downtown to put her on the train he found her much upset and sent her to her mother's home. She said she would not go on with the trip. "I am not fit for anything; I am desperate." She was then committed.

Admitted to Kings Park State Hospital January 27, 1914. She was depressed and worried over her condition. She realized her inability to read or to hold her mind on employment; fears she will never recover; becomes easily fatigued and contemplated suicide.

On admission, physically, well developed; neurologically, negative. Mentally, general behavior was quiet and compliant; appeared depressed and her general activities were slowed down; showed a slight degree of initial lag in speaking and her voice was low. Stream of mental activity; spontaneous production reduced; answers to questions relevant and coherent; shows considerable elaboration along retrospective lines. While telling her story she showed a certain amount of tension; rocked back and forth in the chair; clasped her hands together; seemed somewhat agitated along with the depression, all of which was concentrated around a feeling of precordial distress. General mental attitude is a feeling of depression and hopelessness which she attributes to a burning sensation in her chest. This causes her to feel weak and discouraged. Her trends were not at all definite. No hallucinations. Purely mental functions, such as orientation, memory, and grasp, are unimpaired. She complained of a feeling of difficulty in fixation, yet recalled all important events. No deterioration. Insight good. Judgment on the whole situation satisfactory; no dilapidation of personality. On the formal side she still shows depression, retardation, general slowing, initial lag in utterance. No bizarre acts or ideas.

Free associations bring out the following:

My father was subject to attacks of the "blues," but he never suffered from any nervous diseases otherwise. His mother was left a widow before he was born and she thinks this accounts for his melancholy disposition. "He became depressed shortly after he was married—I have read a good deal about such things. My mother is of a highly strung temperament." Her father was a

French-Canadian and perhaps not entirely normal. He had a bad temper. " My youngest brother, who is wayward, is said to resemble this maternal grandfather of French-Canadian birth." She told of her childhood experiences, in which nothing very definite came out. Said, " when I was ill before I used to play and dance and sing and do everything that I ever did, except that I used to think I was weak, and then when my little boy was born with a cleft palate I used to think *it was a punishment for me* and I would cry a good deal."

For a long time the patient showed considerable resistance, but it was finally brought out that when she was 14 years old she fell in love with a man of a certain type of physical build who brought her much candy and many flowers, and as she grew up she continued to ruminate over him constantly and set him up as her ideal. However, he was of a lower class intellectually than she desired to marry. For conventional reasons she did not marry him and eventually married her present husband. Mr. W. was of a cold disposition, quite intellectual and highly efficient in a business way, but he never made any fuss over the patient; never seemed to know whether she was around or not and she missed the endearments which the other man had given her. Her love for the first man continued to linger steadfastly in her head and it was this submerged feeling of disloyalty to Mr. W. that made her think it was a punishment put upon her when her little boy was born with a cleft palate; all of which was undoubtedly the cause of her first attack of depression a year after marriage. She evidently made a readjustment to the situation and got along pretty well with varying success and fluctuating moods until October 1, 1912, when a workman came to her house and the patient was surprised to find herself noticing him. He resembled her early lover. Amorous thoughts arose " concerning him." She began to feel physically weak and tired out almost immediately, but there had been no concrete incident at this time. This in reality was the onset of her present psychosis. During the year following this accidental resurrection of her affect complex she had attacks of physical weakness and periods of depression with increasing inability to concentrate her mind. This increased to such an extent that she could not read ordinary newspapers. Finally, apparently quite accidentally, the workman returned in

December, 1913, and evidently finding her in a responsive mood, spoke of a picture he saw of herself on the table and apparently started up a flirtation with her. She allowed him to put his arms around her and kiss her and she put her hand on his head. Later in the day she realized the situation in which she had placed herself and told him she was sorry she had done this and took the entire blame on herself. He asked her if he might write to her and she said "no," and that "she would never write to him." The workman whom she met in 1912 and again in 1913 brought to the surface the complex connected with her original lover, on account of his "sweet ways," which had evidently made a very strong impression on her in her early girlhood. Consciously the patient makes vehement defense of (her husband) Mr. W.'s moral and intellectual characteristics, but all her ruminations are occupied by the form and features and sayings of this physical ideal with whom she is in love. However, this flirtation with a workman was a thing intolerable to the patient's rather prim personality, the content of whose manifest consciousness was largely along churchly and conventional lines. The affect of the intolerable complex she subconsciously transferred to the complex of her son's health and she began to worry about him. This son is now 10 years old and was born with a cleft palate, his father being Mr. W. The weakly, deformed child was associated with the cold (subconsciously), unloved husband and it is significant that when the baby was born the patient "wished it would die, as well as herself," probably because it represented an imperfect, undesired thing which separated her all the more from her first love. She states that she would never have married the first man at any time of her life, because he was uncouth; however, it is readily seen from the incident of the workman that this wish has always been awaiting fulfilment and was speedily dramatized when given an opportunity. She says now that she feels that she is slipping away from her family and fears that they will lose track of her. She admits having had a desire to go to the country, but does not understand why she should have been so "finicky" in her choice of a location; but it would seem that all these apparently trivial incidents symbolize *a wish to get away* from her husband, for whom she does not really care. In addition to this complex, she states that she was never well understood by her

mother, but always had a great affection for her father. At any rate the conflict that the patient has been forced to contend with has been such that she has never obtained any real satisfaction out of life. Three years ago, she felt temporarily uplifted when she joined the church, but this did not last long. Evidently this inefficient effort at sublimation was ineffectual. The depression is along rather natural lines and consciously represents a mechanism of atonement (for allowing herself to fulfil her wishes in connection with several men, which she knew was not loyal to her husband, whom she respected as an intellectual man, but who did not appeal to her primitive instincts).

L. N., No. 69886.

Family History.—Complete for three generations. Father said to be "melancholy at times" and alcoholic. Mother mildly alcoholic, but cheerful disposition. One paternal uncle, periods of depression.

Personal History.—Born in New York in 1863; early childhood uneventful; make-up, quantitatively, normal; qualitatively, social type; liked to mingle with others. She was tractable, even-tempered and agreeable. Obtained a common-school education; was bright and never left back in her class. After leaving school has worked continuously as a fur operator, making about $12.00 a week. Puberty attained without marked change of character. At 16 she had a love affair with a man with whom she was intimate, and upon his refusal to marry her she became nervous and depressed and was committed for the first time to a state hospital, where she remained for about two years. After making an apparent recovery she returned to her work, changed her religion from Protestant to Catholic, and seemed to get along pretty well for about eight years, when she was again admitted to a state hospital at the age of 25. At this time she showed depression and ruminated a great deal over her former love affair. She remained in the hospital for about a year and seemed to have made a recovery, as she took up her work and remained out for about five years, when she was re-admitted, again suffering from a depression. Said evil spirits haunted her; thought her soul was lost; voices called her names. She gradually improved and was again discharged three years following admission. She remained well for 17 years, when, after collecting for the church on a very warm day, she rather suddenly became depressed and was admitted to another state hospital, where she remained only two months and was then paroled. She seemed perfectly normal to her friends for six months and worked as well as ever at her usual wages. Nevertheless, she was exceedingly conscientious and worried a great deal if she missed going to work. Just previous to her fifth attack she took a little gin as she had dysmenorrhœa, a thing that she had quite often at her menstrual periods. Feeling a little restless she went in February, 1914, to Philadelphia to visit some friends, who were in the habit of serving beer at meals. Here

on one occasion she drank three glasses consecutively and began to worry over this. She soon began to show ideas along depressed lines, fearing that her soul was lost; heard the voices of dead persons and thought that at times she could hear God's voice talking to her, telling her to repent, etc.

On admission to Kings Park State Hospital, physically, she showed tremor of the facial muscles, tongue, and fingers; left pupil reacted rather poorly to light; knee jerks exaggerated; troubled with headaches. Mentally, her general behavior showed depression, although she answered questions in an ordinary tone of voice and appeared interested in what was going on around her. Stream of mental activity; spontaneous production reduced; replies to questions relevant and coherent; no very great tension. General attitude, characterized by ideas of depression, feeling that she had disgraced herself in the eyes of her friends by drinking three glasses of beer at one time and reproaches herself for many minor acts in the nature of sins. Especially reproaches herself for having watched two dogs copulating. She had all sorts of religious thoughts and developed states in which she seemed to be passing through obscene scenes as if "impersonating Madame X, the Blind Girl," and others. She said, "I had been reading these books and I think I had been going through those parts too deeply. I was in bed and it seemed to be a positive reality. I didn't want to open my eyes and it seemed as though I were groping about in the dark. It was just like a play and it seemed as though my friend were there and she was shocked at the way I was acting, and if it were true, I myself would certainly be shocked." Has heard the voice of a man whom she formerly knew; also heard voices of angels and others. She developed what was analogous to scenic hallucinations while lying in bed and saw all sorts of dramas enacted in front of her *in which she herself was often one of the actors.* Frequently at such times she would smell sulphur. She also thought her eyes were "pieces of glass, as if they were not natural at all" (tendency to the development of unreality syndrome). Mental organism essentially intact; no deterioration; occasionally spontaneously complains of thought difficulty. Says, "I can't understand when this comes over me. At times it is hard for me to think." Insight good; judgment on the whole situation good.

Investigation of this case along lines of free association shows that the essential factor in her life and the one over which she has constantly brooded for *34* years is this:

She had been reared as a Protestant and at the age of 16 she fell in love with a man and had sexual relations with him; he then refused to marry her. He was a Catholic and divorced and as such was excommunicated from the church, but she as a Protestant had not been deterred from wanting to marry him on account of his excommunication. However, when he refused to marry her (when she could not get her wish fulfilment) she became de-

pressed and after her recovery she herself became a Catholic. She did not consciously realize that this prevented her from ever becoming lawfully married to him (with the consent of the church). In doing this she developed a sense of atonement, an effort at making the thing right, *i. e.*, doing a form of penance for her early illicit intimacy with him by thus placing herself forever out of his reach. ***She never married*** and her work as a fur operator kept her life restricted. She had no general outlet for her libido, but sublimated this more or less successfully by excessive zeal in church work. This substitution was not always adequate, and she consciously developed depressions, during which the buried irritative affect complex always came to the surface. She felt that she had done something for which her soul would be lost and all her ideas were along lines of religious recompense. After the age of 30 she seemed to have found the means of almost permanent adjustment, but with the onset of the involution period and the physiological cutting off of the libido, she found that life held less prospect than ever and at once the old conflict returned. All of this being upon a subject displeasing to the personality and which has been more or less buried, the depression is consciously hung upon the trivial incident of having disgraced herself in the eyes of her friends by drinking three glasses of beer at one sitting and also for having watched two dogs copulating. (The association here to her own case is obvious.)

By this year the constant presence of this irritative complex had shown a tendency to seriously undermine the personality and she speaks of things in a way that shows she has a tendency to get out of contact with the world, *i. e.*, feeling of bodily change when her eyes were glass and ***things looked different*** when she felt that way. It would appear that the scenic hallucinations were vividly projected ruminations on the lines of her own wishes. When she would lie in bed and allow her fancy to roam unrestrained she would see herself in the role of a beautiful and attractive woman, who at the same time committed more or less sexual indiscretions; at the same time realizing consciously that " to conceive of herself taking part in such orgies was quite unthinkable." (She never was particularly attractive physically, and her charms were not strong enough to hold the man she loved and who later spurned her.) The auditory hallucinations were always of the voice of the

man with whom she had been intimate. Regarding her dreams, she says " I dreamed I was going on a long journey and every time I woke up I would see a different scene—it is so vague—I have been dreaming that for years—sometimes I would feel happy and sometimes I would feel sad and I would make other people the same way. I thought I was *falling* quite a distance and then I would wake and I would seem to be so frightened " (showing the affective value of the submerged complex). She would dream of knives and had a fear of being killed in that way, which she explained consciously by saying, " you hear so much about the ' Black Hand ' and I have even felt as though I was trying to aid somebody to stop that." The man she was intimate with was not an Italian, but this association refers to an Italian who wished to make love to her, but she would have nothing to do with him and with whom she never had any relations. The association here seems simply incidental. She dreams of snakes. Said, " I thought I was dreaming about reptiles all about me, but it seemed as if I had power to ward them off " (here probably associated with the incident with the Italian whom she repulsed as well as including primarily the first accepted lover).

The life history of this patient upon analysis shows quite conclusively that after the unfortunate affair with the early lover her many depressions are simply reactions to her suppressed complex which she has never been able to permanently sublimate and which after many years latency developed again at the involution period. To all her reactions, however, there is a marked atonement mechanism, which rationalizes the mental situation to her conscious personality.

These cases belong essentially to the group of constitutional depressions. Upon the formal side the outlook is good for recovery. From the psycho-analytic side, the prognosis is somewhat clouded, as we have found that the essential in each was due to an irremedial situation. The disturbing affect complex cannot be entirely sublimated by the patient, but it may be robbed of the greater part of its dynamic value by thorough and vigorous ventilation. This has been done and L. N. has long since returned home seemingly entirely normal. P. A. W. is still somewhat depressed and has failed physically to some extent.

PSYCHOSES IN THE COLORED RACE.

A STUDY IN COMPARATIVE PSYCHIATRY.

By MARY O'MALLEY, M. D.,

Senior Assistant Physician, Government Hospital for the Insane, Washington, D. C.

INTRODUCTION.

In making a study of comparative psychiatry and in analyzing the pathological mental states of given races, one meets with problems the solution of which requires profound research, and one is impressed with the deep and broad scope of the educational and sociological conclusions which can be deduced therefrom.

The characterological inherent traits and tendencies in the individuals of a given race find their own peculiar modes of expression in normal psychological processes, and we may expect to find and do find a definite coloring in the mode of expression of abnormal psychical phenomena in the same race; and when one undertakes to make comparisons of the psycho-pathological states in two races so dissimilar in many features as the Caucasian and African races really are, and especially so in their evolutional advancement, one should not lose sight of the principle that fundamentally certain biological factors and sociological conditions must influence the genesis of abnormal mental states. In this connection arises the exceedingly complex problem as to the manner in which characteristic racial peculiarities enter as etiological factors in the determination of particular mental reaction types in one race and freedom from the same mental reaction in another.

In order to make a study of this sort of value in connection with the observations which others have made on the same subject, one of the first necessities is that there should be a uniformity of nomenclature. Then, too, in order to estimate the racial tendencies at their true value the fact should never be lost sight of that the inherent factors of the individual play an important part in determining the type of the pathological mental reaction.

The factor which we would expect to find most markedly emphasized in the comparative pathological states of the two races under consideration is the enormous difference in evolutional development. Only 300 years ago the negro ancestors of this race were naked dwellers on the west coast of Africa, whither they had been driven by the superior negro tribes who occupied the eastern coast as well as the interior. Here these outcasts, unfit even to compete with these other uncivilized races, were found by the slave traders in the depths of savagery and suddenly transplanted to an environment of the highest civilization, and 250 years later had all the responsibilities of this higher race thrust upon them, so that to preserve their existence in this environment of civilization they were forced to make the products of their mental and manual efforts equal those of their competitors, who had the advantage of thousands of years of civilization. The race under consideration does not belong to the pure type of its ancestors, but has a greater or less degree of Caucasian blood intermixed with that of its own ancestry, which renders the problems to be determined more complex; yet when all of the features are given due weight one is surprised to find how little divergence in the two races there is in their mental activities in health and disease.

This paper is devoted to the discussion of the relative proportion of the increase of mental disease in the colored population as compared with the white in the class of women patients received in this hospital from the District of Columbia as well as to the relative percentage of the various forms of psychoses in both; and in this connection it will be the writer's aim to present such information as will tend to bring out the more important peculiarities in the psychology of the colored race. Desirable as it would be to have a comparative basis to work upon, it must be admitted that information on this point is almost wholly lacking and that no reliable conclusions have as yet been offered on this subject.

It will be the purpose of this contribution to correlate certain factors from a psychiatric viewpoint, so that it may furnish in the future a limited material for further studies. In order to proceed in a methodical manner it is necessary, however great the difficulties may be, to study separately the individuals of the negro race according to their distinguishing psychological and anthropological features. A psychosis in an obviously lower race, such as the

colored race really is, must necessarily offer some features from a mental standpoint which distinguish it in a general way from a psychosis in a higher race. This is so apparent that it requires no further discussion. The lower psychic development of the colored race, under pathological conditions, offers some phenomena which are observed to approach more nearly the general features and characteristics of children.

It is not the writer's claim or object to offer any profound research in this most difficult branch of medicine; this paper is confined to giving only such information as has been collected in the course of the writer's daily experience for a period of nine years; no claim is made as to completeness, nor is it as systematic as would be desirable, for this would require an enormous amount of work exceeding the scope of an article of this sort; and as only the most important and interesting phases can be discussed, it is impossible to do the subject complete justice.

In order to confine the work to some special geographical distribution as a working basis for making definite comparisons, the women patients from the District of Columbia have been selected, this being the only part of the population of the hospital which is drawn exclusively from this territory, as the total population of the hospital is very cosmopolitan and includes classes from all sections of the United States. The large majority of the colored women who are admitted here are residents of the District of Columbia and were slaves or are descendants of slaves from the adjoining states of Maryland and Virginia.

This study extends from October 1, 1909, to January 1, 1914, a period of four years and three months, and includes a total of 800 female patients—455 white and 345 colored—admitted to this hospital. Such a study in the capital city of the nation should have a special value, for in Washington the colored race have had exceptional advantages from an educational, religious and social standpoint, as well as superior opportunities in an economic sense. The race is probably better off here than anywhere else in this country. They are not segregated as they are in other cities, but live in the most favored localities and are distributed throughout the city, and thus have many privileges extended to them which are denied them in the North as well as in the South.

The tendency of the colored population, as of all other races, is to congregate in large cities, and during and following the Civil War there was a great influx of negroes to Washington. In 1860 there were 60,763 whites and 14,316 negroes in the District of Columbia. According to the last census (1910) there were 236,128 whites and 94,446 colored in this city, which shows the increase of colored in proportion to whites, and the accompanying table shows the gradual increase in population in the intervening half century.

Miscegenation of the Races.

The mixing of the white and negro races has produced a race which has received the designation of "colored." Hoffman says that there is probably no true-blooded black man in the United States to-day. This mixing of the negro race with the white race produces such a variety in the proportion of admixture of blood in the individual that it is difficult to determine definitely what part either race plays separately in any patient or to determine the proportion of white and colored blood in an individual under observation. A large proportion of these patients claim either that one parent was white or that the grandparents were white. Hoffman states:

> Of the original African type few traces remain, and the race is largely a cross between the African female and the white male, for no considerable crossing of the negroes with the white females has ever taken place. The instances where white women have married colored men are very rare and the few cases that occur cannot possibly have affected the traits and tendencies of the race. On the other hand, the infusion of white blood through white males has been widespread, and the original type of the African has almost completely disappeared. . . . . It is, therefore, a question of great importance to know what influence, favorable or otherwise, the infusion of white blood has had on the physical, moral and mental characteristics of the race.

This miscegenation appears to have affected the longevity of the race, and the changed social environment has brought about a moral and mental deterioration, together with a diminished power of vital resistance. Information has been brought out by some writers that the mulatto more nearly approaches the white in the contour and shape of the cranium; that the facial angle in the mulatto is larger than in the negro; that the cranial capacity has

been increased, but that there has been no increase in the vital force; that the race may have gained in an intellectual way but not in a moral. Hoffman also states:

> A transfusion of Caucasian blood seems to quicken the African mind, and as the volume of that transfusion increases there is a nearer approach in many important particulars to the intellectual traits of the whites. The mass of mulattoes, however, although brighter and livelier in understanding than the blacks, are not on the whole noted for superiority in mental grasp and comprehension. While the average mulatto acquires learning easier, the pure black acquires the same by greater toil and steadier plodding. The pure negro rises more frequently above the average than the mulatto.

Psychological Tendencies.

There is little known of the psychology of these people, and in dealing with the patients and their relatives and in collecting facts regarding this class of individuals as to their family and personal history and the onset of the psychosis one encounters great difficulties, owing to the inaccuracy of their statements, which are at times more or less unreliable. The ancestry of the negro is difficult and even impossible to trace; in the days of slavery there were no family records kept among the colored race; the study of home environment is next to impossible; the relatives are unable to throw much light upon the development of the disorder and the disease has sometimes progressed to a marked degree before it is recognized, and one experiences great difficulty in obtaining an anamnesis from the patient. The colored are secretive by nature as well as by cultivation, and they are skillful in making up plausible stories, expounding minute details having no foundation in fact. The best results are obtained by allowing them to wander on indefinitely in their narrative, but the facts are usually so distorted and intermixed with the delusional system that it is a perplexing problem to differentiate between what is due to superstition and ignorance and their fantastic ideas and what is fact. This seeming untruthfulness is not due to any conscious effort on their part to conceal, or conscious inclination to affirm what is not true; their inaccuracies are a form of self-deception, not an intentional deception unless their interests are involved.

Their apprehension appears to be just and accurate in direct contact, although their conclusions are rather those of general intuition than of a series of observations of even moderate exactness. Their perceptive faculty seems to be deficient, but this may be attributed to their general carelessness rather than to any imperfection of this faculty. It requires a great amount of painstaking effort and hours of toil to obtain any conception of the mechanisms of the negro mind. In interrogating them their stories and explanations include numerous trivial and irrelevant details which they suppose to be contemporaneous with the main experience, their recollections of incidents being associated with many similar occurrences which have no real value or any connection with them. Their narratives as a rule are desultory, circuitous and irrelevant; their ideas are often lost in an unconscious departure from the subject at hand; it seems impossible for them to be circumspect and even moderately brief. Interruptions only increase the difficulties in which they are toiling, although occasionally one finds an individual among them who is a fair narrator, and then the imagination is given full sway.

A very noticeable peculiarity is the little use which the colored make of individual recall. While their memory retains details to a certain extent, they never reproduce that general intellectual effect which is termed experience; they do not seem to have the faculty of relating facts that memory has stored up, either belonging to their past life or relating to every-day occurrences. Previous experience has little influence in governing their daily conduct; they dwell in the present and neither the past nor the future is taken into account. This is especially well demonstrated in the reactions of the persecutory type of the paranoid psychoses. Their impulses change as rapidly as their emotions, for unless they act under the first outbreak of anger they fail to act at all, which is in part due to timidity. While their anger lasts they do not shrink from perpetrating violent acts and it is under such conditions that their crimes are committed. Their power of mental concentration is not sufficient to insure that steadiness of purpose necessary to carry out a malicious intention.

Their reasoning faculty is subordinate to their imagination, and this is shown in their superstition, which assumes the grossest and

most abject form of credulity. This imagination of the negro arises from mental immaturity, and one of the conspicuous results of this immaturity is that he has little grasp on abstract ideas.

Superstition.—There is no peculiarity more marked in its influence on the colored individual's conduct than his superstition, and in the individuals of this race probably no other trait is more fully developed. They believe supernatural agencies can be compelled to intervene in their behalf and control fate. This superstition has its origin in poverty of intellect and gloominess of the imagination. Like a child, the negro dwells in the visionary and the immaterial, gradually passing through the indistinct ground that divides the natural from the supernatural, but he is unconscious of this stage of transition, for his thoughts move with as much freedom in one domain as in the other, and there are few of the patients who will not willingly give information of communications with heavenly spirits and even with the spirits of their departed friends and relatives, to whom they refer as "hants" or "ghosts." Their conception of the unreal world is much more distinct than that which they have of the real, because it appeals to them through the emotions which make the deepest impression on the mind. There is no approach to poetry or element of tenderness in the general character of their superstitiousness: in their religion the element of native sunniness is always present, but in the realm of superstition the disposition of the negro does not radiate any atmosphere of light, for it is dejected and darkened by the gravest apprehensions.

Of all the peculiarities of which the colored are aware, they are most ashamed of their superstition; it is kept profoundly secret except from individuals of their own race, and they cannot be persuaded under any circumstances to reveal it, although occasionally, under the influence of their delusional system the inhibition is removed and they will then cautiously disclose some of these secrets. Having its origin in darkness, it continues to lurk in darkness, but when the restraints are thrown off, owing to the force of the prevailing consternation, they will disclose with frankness the fear and anxiety which burdens their heart and mind. Spirits enter more largely into the superstition than any other figments of the imagination, for it has an overshadowing personal element in it. The picture of physical death repels and yet attracts him, and

his convictions as to the existence of the spirit after death cannot be shaken, and to the distorted mind this spirit is constantly assuming a visible shape, but rarely ever that of flesh and blood. This shape is shadowy and grizzly and always aggressive; the ghosts of his nearest and dearest friends alarm him as much as those of his bitterest enemies. One colored woman, a criminal, who murdered a fellow prisoner, placed in solitary confinement was constantly troubled at night by this woman's "ghostes." After admission to this hospital these visions continued at times, especially on dark or stormy nights, although she had no actual hallucinatory experience. She is extremely superstitious and is "hanted" by the ghosts of her friends and relatives, as well as by that of her victim.

All negroes have a pronounced fear of darkness, as the occult and evil influences occur more frequently at night. The "night doctor" or "trick doctor"—sometimes a supernatural being—is invested with more importance than a preacher, since he is regarded with the respect which fear incites. This "trick doctor" or "night doctor" restricts his visits to the hours of darkness, at which time he can visit any locality and carry out his practices. Many of the colored are on the alert to detect evidences that they themselves are falling victims to these sinister influences, and they often discover signs that portend calamity to them.

Religion.—Concerning religion, the negro is remarkable for a very devout spirit so far as this indicates a passionate religious feeling in contradistinction to sober and exemplary conduct. As an abstract hope and a native aspiration, it colors his whole nature as much as do his impetuous appetites. Religion in the negro is a form of emotionalism and in this race it is not confined to sex, for the man is as fervent and devout as the woman, being as much open to religious impressions and as much dominated by his emotions in this direction. The religion of the colored individual does not seem to be a code of morals, but it is a code of belief and has little bearing on the practical side of his existence and slight influence on the common motives for his conduct. The instructions and teachings which they receive in their churches seem to have little connection with their every-day life, as they fail to appreciate any relation between religion and practical morals.

Under the influence of emotional excitements of any description, as religion, witchcraft, etc., an assemblage of colored people can work themselves to a degree of mental exaltation where the real world disappears from sight and the supernatural alone exists for them. Their native emotional temperament and imaginative powers which have remained for ages in superstition, together with their great tendency to the supernatural, easily transform the visionary into reality, and in comparing the normal with the pathological mental processes in the colored race the line of demarcation is very indistinct and the transition between the real, the supernatural and the hallucinatory experiences is very difficult to establish in many cases, owing to the prominence which these religious emotions obtain. These patients without exception will state upon inquiry that they have "talked with the Lord," but it is only after the most careful cross-questioning that they will admit that he was not seen materially, but in the spirit, and in their descriptions of him he always appears as a white man.

Etiological Factors Depending on Traits of Character.

It is conceded by all who are familiar with the facts that insanity in the colored race has increased extensively since they acquired freedom, and general statistics, as well as the records of this hospital, indicate to what an alarming extent this is true.

Since the emancipation they have been freer from restrictions and this has permitted them to indulge to a greater degree in excesses of all kinds. Through their ignorance they disregard all hygienic laws; overindulgence in both eating and drinking and the lack of wholesome food have all played an important part as etiological factors in the development of mental disorders in the colored race. The authority to which this race submitted as slaves had a restraining effect on them. They were under the rigorous supervision of the master as to morals, habits, etc. This early training and salutary environment, and the control which the slave-holder exercised over them, prevented them from indulging in promiscuous relations. These restrictions protected them in a degree from venereal disease; they were valuable as property and to keep them free from disease was one of the aims of the masters, and this was especially true in Virginia, where many of these slave-

holders were breeders and prided themselves on producing high grade slaves for the markets of the Southern states. Many of this race now violate all rules of morality and propriety, and as free individuals they do not adopt any lines of deportment. They see no wrong in doing what nature prompts them to do. Before their animal appetites all barriers which society has raised in the instance of the white race go down as though without power of frustrating the inclination to gratify them. These appetites are gratified to such a degree that the result of these vices is a factor which has probably done more than all others to produce mental disease. The colored women withdraw from all the social laws of white women; many of them do not consider it necessary to enter wedlock, and the number of illegitimate children born to unmarried colored women is very great. Some of them have seven or eight children, although not married. Hoffman states that twenty-five per cent of the births in the colored race in the District of Columbia are illegitimate. Rarely is a colored woman admitted here who has reached the child-bearing age who has not borne one or several children. If they do marry, their choice is rarely influenced by any moral qualities in the opposite sex. This sensual conduct on the part of a colored woman does not essentially affect her standing in the community to which she belongs; she is more frequently reproached and denounced for the color of her skin than for her lack of morals, and this subject is freely discussed among the patients. They talk with perfect equanimity about the number of illegitimate children they have, but revile each other for the color of their skin. The darker the skin of a patient, the more forcefully the appellation "black nigger" is used as a vilification.

It must necessarily follow from the above facts that venereal disease would be common among them. Statistics show that syphilis is freely acquired by the colored, and with the introduction of the Wassermann reaction one is able to gain some idea of the prevalence of this disease among this class of patients. Mays, citing Dr. Powell, says:

> The indirect and direct effect of syphilis is one of the leading factors in the causation of insanity in the colored race. The large number that are tainted with syphilis is really alarming. I have ascertained from reliable sources that on some of the large plantations where there are a great number of negroes there are few of the adults that are sound or free

from the taint of syphilis. I conferred freely with quite a number of physicians who were actively engaged in general practice before the war and they seem to be freely agreed in the statement that secondary or tertiary syphilis was almost unknown in the negro at that time.

Concerning alcoholism in the colored race, quoting Hoffman, who cited Dr. Norman Kerr:

> Alcoholism among the negroes differs materially from the same disease in the white and Indian races. The negroes, with their vivacity and enthusiasm from their nervous sensitiveness, are easily excited. Their drunkenness is more demonstrative than profound, but the anesthetic influence is less lasting. They may be characterized as more easily intoxicated than the white men of western countries, but less liable to the diseased conditions which are designated "narcomania," "intoxicant mania" or "inebriety."

These observations of Kerr have been substantiated by numerous writers, some of whom assert that while the full blooded negro is to some degree immune to the toxic effects of alcohol, yet the mixed race is more prone to these effects, but that even in it the mental faculties are not so profoundly impaired by the use of intoxicants as is the case among the whites. This is illustrated in the following table, by the comparative frequency of alcoholics among the colored women as compared with the white women admitted to this hospital. There is no doubt that the colored women indulge in liquor to a certain extent, from the histories we are able to obtain, yet they suffer less from the consequences of overindulgence. Alcoholism is less prevalent than among the whites, and there is no positive proof of a tendency towards increase.

One of the potent factors in the etiology of mental disease in the colored race is the change of social condition from slavery to freedom. Being removed from a dependent existence and forced into the maelstrom of modern competition on an equality with a race which has been under the influence of civilization for thousands of years and compelled to compete with this race must necessarily work hardships on the individual, and we must consider the deleterious effect on the mind which was brought about by such a complete change. Under the most favorable conditions the struggle for existence is accompanied by exhaustion of nervous energy, and individuals of a primitive race placed in such a changed environment and exposed to vices and excesses of all sorts are not equal to the task of adjusting themselves to the stress and strain, and develop

mental disorder as a compensatory defense in the attempt to adapt themselves to the changed relations in which they find themselves out of harmony with their environment.

Previous to and during the Civil War the question of insanity in the colored race received little attention, although it is quite manifest from the statistics that there were many epileptics and idiots among this race, but few insane. The census of 1860 shows that there was a total of 766 insane colored patients in institutions in the United States in a population of 4,031,830, and the census of 1910 shows a total of 13,567 insane colored patients in institutions in the United States in a population of 9,827,733. Thus in 1860 one in every 5263 colored persons was insane, and in 1910 there was one in every 723 colored persons insane. From 1860 to 1910 the colored population increased 111 per cent, and in the same time the number of colored insane increased 1670 per cent, thus showing the marked disproportionate increase of insanity over that of the population in the country at large.

The figures in the following table bring out some interesting facts and show the relative increase in both the white and colored population in the District of Columbia for the last fifty years, together with the relative increase of admissions of both white and colored women to this hospital for each ten years during the same period:

Census Year	Population			Insane		
	White	*Negro	Other Colored	White	*Colored	Total
	(1)	(2)	(3)	(4)	(5)	(6)
1860	60,763	14,316	1	22	2	24
1870	88,278	43,404	18	28	8	36
1880	118,006	59,594	22	35	9	44
1890	154,695	75,572	125	46	25	71
1900	191,532	86,702	484	76	41	117
1910	236,128	94,446	495	87	67	154

*The official statistics of the United States Census designate this race as "negro," but in the official records of this hospital they are designated as "colored."

Columns 1 and 2 of the above table show the population of the District of Columbia, both white and colored, for each decade for the past fifty years, beginning in 1860, and columns 4 and 5 show the number of white and colored women admitted to this hospital in each of those years; *e. g.*, in the year 1860, 22 white women and

2 colored women, and in 1870, 28 white women and 8 colored women, etc. The first decade discloses a considerable increase of the colored over the whites immediately following the Civil War; while in 1880, 35 white women and 9 colored women were admitted to this hospital; in 1910, 87 white women and 67 colored women. These figures show the remarkable steady increase of mental disease in the colored race in comparison with that in the white race.

While the above table shows the relative increase of insanity in the women of the colored race in the District of Columbia for each decade in the past half century, it must also be taken into consideration in this connection that all of the colored insane find their way into the hospitals, while a limited percentage of the white race in this territory avail themselves of the advantages of private institutions. There is still another feature in regard to the population of the hospital of which we must not lose sight: Washington, being the seat of the federal government, attracts many persons, especially among the white race, who are non-residents and who come here to place their imaginary grievances before Congress or the Chief Executive of the nation, and thus find their way into the institution, increasing the number of admissions from the city of Washington.

In reference to the psychoses, the second table represents with a fair degree of accuracy the various reaction types observed among the 800 admissions (345 colored and 455 whites) of women during the past four years. In reference to the frequency of any special form of mental disease proportionately in the colored race, it is impossible to establish facts unequivocally, owing to the lack of accurate data covering a sufficient range of cases, but some points of interest are brought out as to the relatively frequent occurrence in the cases observed of certain types of mental disease in the colored and the rarity of others. For example, it may be noted that paranoia is seldom observed in the colored race.

According to the experience of the writer, the color of the skin seems to play an unimportant part in any given psychosis, for all pathological mental conditions occur with every grade of color, from the black skin to the lightest colored mulatto. But this is an extensive subject and requires further and more comprehensive study.

TYPES OF MENTAL DISEASE.

	White	Colored	Total
Dementia precox	168	128	296
Manic-depressive	49	30	79
Infection exhaustion psychosis	4	7	11
Toxic psychosis	24	7	31
Organic brain disease	67	54	121
Senile and presenile psychoses	40	17	57
Undifferentiated psychoses	12	20	32
General paresis	7	11	18
Paranoia	3	0	3
Paranoid states	6	2	8
Involutional melancholia	8	1	9
Depression	12	1	13
Hysteria	4	1	5
Defective states	20	30	50
Epilepsy	13	16	29
Not insane	18	20	38
	455	345	800

Of the 800 cases observed the various psychoses occurred with the following frequency in proportion to the number of individuals: In the 455 white patients, dementia precox, 168 cases or 37 per cent; manic-depressive, 49, or 11 per cent; infection exhaustion psychosis, 4, or .9 per cent; toxic psychosis, 24, or 5.3 per cent; organic brain disease, 67, or 13 per cent; senile and presenile psychoses, 40, or 10 per cent; undifferentiated psychoses, 15, or 4 per cent; general paresis, 7, or 1.5 per cent; paranoia, 3, or .7 per cent; paranoid states, 6, or 1 per cent; involutional melancholia, 8, or 2 per cent; depressions, 12, or 3 per cent; hysteria, 4, or .9 per cent; defective states, 20 or 4.4 per cent; epilepsy, 13, or 3 per cent; not insane, 18, or 4.9 per cent. In the 345 colored, dementia precox, 128 cases, or 37 per cent; manic-depressive, 30, or 9 per cent; infection exhaustion psychosis, 7, or 2 per cent; toxic psychosis, 7, or 2 per cent; organic brain disease, 54, or 16 per cent; senile and presenile psychoses, 17, or 4.9 per cent; undifferentiated psychoses, 20 or 6 per cent; general paresis, 11, or 3 per cent; paranoia 00; paranoid states, 2, or .6 per cent; involutional melancholia, 1, or .3 per cent; depression, 1, or .3 per cent; hysteria, 1, or .3 per cent; defective states, 30, or 9 per cent; epilepsy, 16, or 5 per cent; not insane, 20, or 6 per cent.

An accurate classification of the multitudinous forms of mental disease is impossible, but the one used in this article is that adopted in this hospital for practical use in indexing the various forms of mental disorder, and the clinical observations are correlated from the most prominent mental and physical symptoms. If we investigate the clinical forms under which the nosological entities referred to present themselves, the fact is again verified that biological agencies and social factors have a determining influence over the genesis of mental alienation, and that dementia precox stands at the head of the list of diseases to which the colored as well as the white race are subject; although writers who have dealt with the subject from this standpoint have asserted that "mania" is the most common form of mental disease observed in the colored people, and, as one writer says, the United States African negro is especially and predominantly of the maniacal type. Evidently the mania referred to comprised a great many forms other than those included in the manic-depressive group of to-day, but it is uncertain what is included in the group referred to. Different alienists apply the term "mania" to groups of a widely different range and it is not easy to discuss cases where the class of case is not specified. If we consider the term "mania" as explanatory of the excitements of the various types, the above statement is perhaps true, as the colored race is of a highly emotional nature, with little capacity for self-control, and thus we might necessarily expect this type of reaction to predominate.

Babcock states:

> Two interesting phases of insanity in colored races are the comparative rarity of melancholia and the prevalence of mania, which is 20 per cent more common than it is in the whites. Consequently, we should expect to find, and do find, almost an absence of suicidal tendencies among the colored insane.

Dementia Precox.

Our statistics do not show that dementia precox essentially varies in numerical proportion in the white and colored races, notwithstanding that one would expect the contrary, in view of the primitive order of intelligence of the colored race and the near approach of the general make-up of the individual to dementia precox types, as shown in his characterological indifference to environmental in-

fluences and the psychology of his every-day life. In dementia precox the clinical picture is protean and variations in the symptomatology are sufficiently common, and especially in the hebephrenic forms there is no question but that the prodromal existed for some time in the individual before it is recognized by his associates and friends. Difficult as it is to determine the premonitory symptoms of dementia precox in the white race with the vagueness of its early symptoms, when it often escapes the attention of the family physician, it is far more so in the colored race, existing as they do in a world of their own, of ignorance and superstition. The first manifestations are often attributed to "conjurers" or occult influences placing a "spell" on the individual, and the victim is often taken to fake doctors for the removal of this "spell." One of the colored patients, a young girl about 20 years of age, who suffered from the results of an unfortunate love affair previous to her breakdown, is supposed by her parents to have been "conjured" by the young man in question. The mother is an ignorant colored woman who demands her daughter's release and emphatically describes how her daughter has been influenced by this young man, who has placed a "spell" upon her.

Estimating the percentage of frequency of a given morbid entity relative to the cases of each clinical type as shown by the actual figures, we see in a total of 296 cases of dementia precox 168 white cases and 128 colored, or 37 per cent of the total. Of this number, 74 white and 61 colored were of the hebephrenic type; 31 white and 37 colored were of the catatonic, and 64 white and 28 colored of the paranoid form. The preponderance of the hebephrenic form in both races is obvious, being a total of 44 per cent of white and 47 per cent colored, but one interesting feature is the preponderance of the catatonic form in the colored, which is relatively 29 per cent, in contradistinction to 18 per cent in the white, and the preponderance of the paranoid type, 38 per cent of the total in the white to 21 per cent in the colored. This infrequency of the paranoid precox types, together with the infrequency of the other paranoid conditions in the colored race, is interesting. This is explicable in a degree if we distinguish the fundamental basis of paranoia from a strictly intellectual view-point, and consider the absence of marked intellectual deterioration in paranoid conditions. The mental immaturity and weaknesses of judgment displayed in

the colored, together with their feeble power of discrimination, hinder the transformation of the personality to a marked degree. The persecutory type is probably in excess of the grandiose; in this form there is an inability to adapt the personal trend of thought and attitude to the facts in question as well as to the surroundings. As a rule these patients have retrospective falsifications and their anti-social and dangerous reactions to environmental conditions show the failure of adaptability of their side-tracked personality. However, they are not as threatening or malicious in their attitude toward those in authority as are the whites. This is probably due to the fact of the subordinate position to which they have been subject all their lives.

Among those of the grandiose type who show a pathological transformation of the personality and entertain ideas of an exalted position, the writer finds it a very common delusion entertained by the colored women that they are white; that they are the mothers of the white nurses and physicians; each one will claim that she is the only white person among these patients and that all the others are "niggers." This is symptomatic of definite types of maladjustment, for it must be assumed that an individual who realizes that she has a proportion of white blood in her veins would naturally have aspirations and wishes that she might be white; that the excess of white blood might dominate. This wish fulfillment characterizes the delusional solution of existing difficulties as a harbor into which the sore mentality of the patient can retreat. The women rarely aspire to anything higher than to be a preacher, but some believe they are prophets and possess divine power. Some of these women preach to their fellow patients, and one woman in particular has for years conducted religious services every Sunday, at which she becomes very eloquent and exhorts her audience to refrain from their sinful ways and seek salvation. She opens the services with prayer, reads from the Scriptures and then talks for one hour or more. She will then return to reading the Scriptures, which is followed by prayer. At one time she conducted these services every few hours during Sunday, but of late she has become so enfeebled physically and has beginning senile cataract, which has made it almost impossible for her to read, that now she only conducts the service at 10 o'clock on Sunday morning. While preaching her eyes will fill with tears and she will weep for

some minutes and bemoan the state of her sinful hearers, whom she reproaches for not following her admonitions.

Manic-depressive.—Concerning the opinion above referred to as to the frequency of "mania" as a psychic disorder in the colored race which has been advanced by some writers, it must be stated that not all excitements can be grouped under the manic-depressive psychosis of modern psychiatry, and following the classification of Kraepelin, in which he brought together the diseases mania and melancholia as a unitary disorder, this fact is not substantiated, for cases of manic-depressive psychosis are relatively rare among the colored.

In viewing this manic-depressive group we find this form of psychosis in 49 white as compared with 29 colored patients, and in these cases the excited phases predominated among the colored and the depressive phases were the exception rather than the rule. In these 49 cases one white woman was admitted on four occasions. Another was admitted three times and still another twice, the number of white patients who suffered from manic-depressive psychosis being thus reduced to 43, or 9.3 per cent. The several admissions among the colored show that one patient was admitted four times, another three and still another twice, making 23 colored patients admitted, or 6.5 per cent. Thus it will be seen that the manic-depressive psychosis predominated in the white race to a considerable degree.

Recurrent phases of excitement are common in the colored, and if there is a depressive phase it is not always recognized; in the manic-depressive group only three of the 23 colored cases showed a depressed reaction type. Witmer expresses the opinion that these forms often escape recognition and proper treatment, for the race superstition leads the friends of persons suffering from this form of disease to conceal their true condition and attribute the mental disturbance to the occult influences of voodooism, conjuration or evil spirits.

The personal equation plays a very conspicuous role in all forms of mental disease, but it is especially emphasized in the manic-depressive psychoses occurring in the colored race, for not only is the infrequency of depressions quite noticeable, but this race also shows a more gradual deterioration as age advances than do

the whites. Their interests become narrowed, owing to their confinement and lack of education, which deprive them of the means of communication with the outside world.

Involutional Melancholia.—In involutional melancholia, which is closely allied to the above form and which is presumably an epochal variation of the manic-depressive type, as it presents the same underlying predominant factors and does not deviate to any marked degree in its expression, it is again manifested that numerical frequency in the whites is obvious, there being 8 whites, or 2 per cent, and 1 colored, or .3 per cent, of this class.

Depressions.—Under this heading are grouped depressive states, these being again subdivided into simple, psychogenic, hallucinatory and symptomatic. In this group there were 12 whites, or 3 per cent, and 1 colored, or .3 per cent. By the comparative infrequency of pathological depressions in mental disorders the point is again emphasized that the colored do not react in a pathological sense to mental stress, and the fact is further brought out that the human mind reacts according to certain fundamental principles, no matter under what conditions or circumstances it may for the time be placed. In caring for these colored patients the danger of suicide is reduced to a minimum. In the writer's experience not one colored woman has attempted suicide in the hospital and in only one case was the evident desire for dissimulation manifested, in that of a young woman, who when admitted had slashed her throat with a razor. This suicidal tendency was manifested in the one colored woman with involution melancholia, who entertained self-depreciatory ideas, etc. She frequently expressed the determination to kill herself, but never attempted it, thus showing a lack of initiative. Their sorrows and anxieties are not staying in quality and do not make a sufficiently lasting impression on them to create a desire to end their life; they also lack the courage and steadiness of purpose to destroy themselves; besides they have an inherent horror of death, due to their gruesome imagination, which thus plays some part as a controlling factor in their symptoms.

In connection with the manic-depressive group, considering the chronic population in this hospital as a whole, there are many patients among the colored in whom there is a tendency to perio-

dicity in the course of the psychoses, in which attacks of excitement and depression and a quiescent state follow each other. These periodic attacks differ from the manic-depressive type; their affective reaction shows a lack of uniformity; the movements of expression do not harmonize, and the manifestations are not deep but superficial. The sound associations are far-fetched in contradistinction to what is seen in the pure manic, and are due to an association disorder, but not to pure distractibility, which is essentially a reaction to external stimuli, but the absence of over-activity corresponding to the mood is suggestive of the dementia precox type; and in the depressed states and quiet episodes in these cases there is a lack of retardation or reduction of activity; therefore it is probable that these cases are of the dementia precox type, with a manic-depressive syndrome concurrent. One woman was first admitted in her 17th year and five times subsequently; is now 35 years of age, and has been an inmate for ten years; suffers from periodic attacks of excitement, which are preceded by a mild depression and followed by a quiescent period. She apparently possesses some degree of critique, for at the onset of these excitements she usually seeks a secluded part of the ward or will wander into a room by herself, close the door and remain there for a matter of days, waiting patiently for her food to be served, and only leaving the room to look after nature's wants. When this patient disappears into the room it is accepted as a warning to her associates as well as to the nurses to avoid contact with her, for if any one interferes with her she follows her around and threatens to kill her, although she has never attempted to carry out her threat. After the excitement has subsided she appears on the hall, goes to the dining room and adapts herself to conditions until the onset of another attack. Another colored woman, age 22 years on admission, who has been an inmate for 32 years, has similar episodes and she also has insight which is apparent at the onset of the excitements. She gives warning to her nurses when her life becomes anti-social on the ward and goes to her room in the same manner as the first-mentioned patient. This insight is further evidenced by the fact that these patients appear to appreciate their violent tendencies and destructiveness during the period of pressure of activity, and the desire for solitude is probably in

some degree influenced by their love and respect for their white nurses. Many similar cases could be cited. In these periodic conditions among the colored there is evidence of deterioration, but not to such a degree as is present in the true precox types. There seems to be a combination of reactions in this connection of dementia precox as the primary disease with a manic-depressive syndrome which modifies the disease picture.

Infection Exhaustion Psychosis.—This type of psychic disorder, which is manifested by abnormal mental symptoms due to an infectious disease process or to underlying somatic disorders, appears to be rather in excess in the colored race, there being four cases among the whites and seven among the colored. In one white case the etiological agent was pulmonary tuberculosis, and in another infection following an induced abortion, and two white patients presented deliroid states symptomatic of acute nephritis. Among the colored cases one was associated with cardiac disease, with failure of compensation, and six were associated with pulmonary tuberculosis. These manifestations of psychic disorder due to tuberculosis in the colored race must be expected, as they are so prone to this disease process. The enfeebled physical resistance of the colored is demonstrated in all cases of tuberculosis in the hospital, for even when they are removed to more favorable surroundings in the way of light, ventilation, food, etc., the disease continues to progress very rapidly and in all cases proves fatal, while white patients are benefited by this change and frequently recover.

Toxic Psychosis.—Under this grouping are included the psychoses not referred to in the preceding paragraph and which are due to toxic agencies introduced from without. It is not always possible to differentiate etiologically between the two types. Of this class 24, or 5.3 per cent, in the whites, 14 were due to alcoholism, 8 to various drug addictions and 2 to carbon monoxide poisoning. In the colored, in a total of 7, or 2 per cent, 4 cases were due to alcoholism and 2 to drug addiction. We find this reaction to alcohol which produces psychotic symptoms a very important one and the above figures, 14 cases in the white and 4 cases in the colored, support the fact that the effects of alcohol are

not as manifest in the colored as in the whites. In reference to this subject, we must consider the numerous ways in which alcohol may enter as a controlling factor; the desire for the intoxicant, the reaction to alcohol, and the capacity for self-control, which are not adjusted by rule, but are modified by certain factors inherent in the individual. Though the colored drink large quantities of alcohol, it has been advanced by writers on this subject and is demonstrated by the daily observations of the present writer that the colored race are not so prone to deliroid conditions as the white, the process of evolution not having reached the same degree and their nervous system not being so highly organized. Of the various types of the alcoholic psychoses, delirium tremens appears four times in the whites and twice in the colored. Korsakow's syndrome with polyneuritis appeared in three whites and one colored.

A word here in regard to drug delirium in the colored: of the two cases referred to, one of the women had been using large quantities of sedatives previous to admission and was suffering from a typical deliroid condition. The confusion, however, subsided after a few weeks' appropriate treatment. The other one, a criminal, was suffering on admission from a prison psychosis markedly colored by delirium produced by bromides which were administered while she was in prison in solitary confinement. It is of interest to know, however, that both these women reacted by delirium in a similar manner to that in which the white react under the same conditions.

A number of colored women were admitted who had a previous history of alcoholism, and it was difficult to differentiate at first as to whether the deteriorating symptoms were due to alcohol primarily or to dementia precox, but they were subsequently classed among the latter. Many of the cases which are included in our list of paranoid precox have hallucinatory experiences, especially of hearing, and it is not a very easy matter to establish the diagnosis in these cases between a chronic delusional state of this type which is due to alcohol and one which is in itself a true paranoid precox.

Paranoia.—True paranoia is uncommon among the colored, but paranoid reaction types are classified here among the paranoid

states and paranoid forms of dementia precox, although in the writer's experience two women who are not included among the number and who had the general appearance of white women showed a mental mechanism of adjustment and adaptation to life similar to true paranoia.

Hysteria.—The figures in the cases of hysteria are worthy of note; this mental disorder occurred in four white patients and one colored. This appears to be an uncommon type of mental reaction in the colored race, and this one case is the only one observed of this type in the writer's experience in dealing with at least 1000 colored women patients in this hospital. This woman cut her husband's throat with a razor following a jealous quarrel; subsequently, while in prison, she developed a hysterical mental disorder, and when admitted to this hospital some time later she manifested all the cardinal symptoms, both physical and mental, characteristic of a true case of hysteria major; subsequently she recovered, but had a complete amnesia for the crime, as well as for the period following in which she suffered from the mental disorder.

Senility and Presenility.—In this classification there were 42 whites and 17 colored who showed symptoms of mental senility. There is no essential variation in the senile and presenile psychoses of the white and colored aside from the fact that more of the whites lived to an advanced age than do the colored. It has been said that the proverbial longevity of the negro has probably only existed, as a matter of fact, in the traditions and stories of folk-lore which have come down to us. No dependence can be placed upon the statements of the colored patients or of their relatives as to their age, for they are absolutely unreliable. Few if any know their ages and in our examinations, in order to arrive at any conclusions as to their relative age, we always ask the question as to whether or not the patient was a slave, or if their parents were slaves, and as to where they lived during the Civil War. These appear to be leading questions with them, no matter what degree of deterioration may be present, and in this connection their responses usually show some correspondence with the actual facts, for these events seem to be so much a part of themselves that it often fixes the other events of their lives.

The summary of data and general statistics do not go to show that the life of the colored is prolonged, nor do they even reach the advanced years that the whites do. The mortality of the colored race is very high and in physical diseases, even when placed in conditions similar to those of the white race, their organism does not respond to treatment and their lowered vitality and lack of physical resistance are obvious. But this is too extensive a subject to be discussed here.

Organic Brain Disease.—A total of 121 patients is included under this heading—67 whites and 54 colored; 64 whites and 40 colored suffered from cerebral arteriosclerosis; 1 white and 6 colored from cerebral lues; 1 white from cerebellar ataxia; 2 colored from brain tumor, and 3 white and 1 colored from progressive chorea. This case of chorea occurring in a colored woman is interesting, as chorea is an uncommon disease in the race.

The only subdivision under this group to which we will here refer is cerebral lues, and the above figures show the extraordinary frequency of this disease in colored women in proportion to its frequency in white women. Nothing more clearly indicates their racial deterioration than the increase of this dread disease, and shows how seriously freedom has affected the vitality and longevity of the race and has left as a heritage for future generations the results of their vices. According to the clinical records in this hospital the results following the routine examination of the blood serum in the last 100 colored admissions showed that 23 of the Wassermann reactions with the blood serum were positive, in contradistinction to a similar reaction in the last 100 white patients who were suspected of a syphilitic infection, in which there were 13 positive reactions. (This examination of the blood serum is not made in all cases of the white women, but only in suspected cases, and among this number were 3 cases of general paresis and 1 case of cerebral lues.)

General Paresis.—The diagnoses of general paresis and cerebral lues are based on the serological and cytological findings, and it is of some interest to note that while cerebral lues is proportionately less in number in the white women as compared with the colored in general paresis the ratio is more nearly equalized, as indicated by the figures: 7 whites and 8 colored. It is usual to separate

paresis from the other syphilitic disorders, but the dividing line between cerebral syphilis and paresis is becoming more and more indistinct. In the clinical picture and laboratory findings which include the serological and cytological examinations, the disease picture is at times so similar that it is only at the autopsy that the diagnosis can be verified.

Besides those suffering from general paresis and cerebral lues, one colored woman showed a luetic meningitis and one other had a cerebral tumor with a positive Wassermann reaction of the blood serum, and it was difficult to know whether the clinical picture of this disease was due to the tumor or to the lues present.

Undifferentiated Psychoses.—The term undifferentiated psychoses is employed where there are insufficient data upon which to base a definite diagnosis, and in these cases the symptomatology is correlated and evaluated to establish a classification as approximately as possible from the symptoms obtainable. Our table shows that of this class 12 were white; 3 of these were of the excited type, 3 of the demented type, 3 of the confused type, 1 of the depressed type and 2 of the deliroid type. Of the 19 colored, 8 were of the excited type, 7 of the demented type, 3 of the confused type and 1 of the depressed type.

Defective States.—The subject of defective states is too extensive to be considered here, owing to the scope of cases included. It is impossible to estimate the prevalence of mental defectives among the two races or even to make a relatively reliable comparison between the white and colored as such. A high proportion of this special class remain at home and are cared for among friends. The District of Columbia makes no provision for the indigent of any class who show mental deficiency except for a few white cases which are cared for in eleemosynary institutions in other states. The remainder, which include all the colored, are either cared for in the almshouse or admitted to this hospital. This includes the feeble-minded, incorrigible, imbeciles, idiots, etc.; therefore it can readily be seen why there should be an excess of this class among the colored; besides, the individuals of this race are intellectually much nearer the level of the feeble-minded, and in a large number of our admissions it is only with the greatest care and attention that conclusions can be drawn as to whether the defect in the colored individual is inherent or acquired.

Epilepsy.—Epilepsy in the colored race presents no noteworthy peculiarities and the essential characteristics are similar to those in the whites, although there is a considerable excess of colored over the whites in this special class and many colored people also suffered from this affliction previous to the Civil War. The majority of epileptics of both races are not admitted until the adolescent period and the inadequate and unreliable histories in regard to their antecedents that we are able to obtain from the relatives of the colored throw little light on the etiology or course of the disease. Of the number admitted, 13 were white and 16 colored.

Not Insane.—This diagnosis refers only to the condition of the individual while in the hospital and does not include what may have been the condition previous to admission. For instance, a patient who, according to the records, suffered from some psychotic symptom, but who was convalescing on entrance, is classified as not insane. Colored individuals are occasionally arrested for drunkenness and disorderly conduct or for an unusual display of emotional reactions, singing, dancing, etc., or talking in an excited manner with one of their neighbors, and when they are admitted for observation they are found to show no psychotic symptom.

Management and Control.

A word here in regard to the management and control of these colored individuals: in the hospital the colored patient is much more submissive and amenable to discipline than the white. As slaves they were docile, tractable and subordinate, and these instincts of obedience which have been transmitted from their immediate forefathers remain with them. The traditions and influence of slavery have made the disposition of the colored more pliant than it would otherwise have been. Their native cheerfulness and good humor are unchanged, and as a rule are always with them; when angered they are not cruel, but impulsive. In their daily associations they are rarely violent with each other. They occasionally use impulsive physical force, but the violence of their language is at variance with their actions, and the most extravagant verbal engagements always terminate peacefully when the

power of their tongues and their lungs are exhausted. The tumult begins at a high pitch and after lasting one or several hours gradually dwindles to silence. As these periods become quiescent, familiar and amicable relations are at once resumed until an occasion arises for another outbreak. A visit to a dormitory in the evening, where eighty of these patients are congregated and are engaged in an altercation in which they use the vilest epithets directed toward each other, would alarm one who was not accustomed to this procedure.

As they have not reached the degree of evolution of the Caucasian race, there is not the same depth to their reversion and they do not reach the degraded condition of the white patients. Under the same conditions their habits are not as filthy and disgusting. They are not given to exposing their person or to using the same sexual symbolism which is so noticeable in the superior race. They show a mental acuteness not displayed by the whites in responding to nature's demands and few of them soil or wet themselves.

While they are more easily controlled and managed on the ward, yet no parole privileges can be extended to them, as no dependence can be placed upon their word. They always wander beyond their parole limits, notwithstanding the fact that they will most convincingly promise not to do so. Owing to their sensuous tendencies and lack of the ordinary social conventions of life, the women must, for their own protection, always be kept under the supervision of the nurse.

A certain percentage of the colored show interest in their relatives and visit them frequently, but on the whole they do not manifest any unusual interest in their discharge or release, as they are more or less improvident and do not look upon the absent member of the family as an economic loss from a wage-earning standpoint as do many of the whites, who constantly request the release of the patients so they can add to the support of the family.

Conclusions.

1. As to the facts brought out, the tables show the conclusion is warranted that in the colored race a large increase of mental disorder is obvious since their attainment of freedom, and that, too, in localities favorable to the race.

2. That the mental mechanism in the given psychoses does not essentially differ in the two races.

3. That the dementia precox type is the preponderant mental disease entity among the colored, but it is not excessively disproportionate to the same manifestations in the whites; that there is an excess of the hebephrenic type in both races; that the number of catatonics in the colored exceeds the number in the whites, and that there are more of the paranoid type in the whites than in the colored.

4. That manic-depressive psychosis is not as prevalent among the colored as in the whites, and that in the colored the excited phase of this psychosis is more frequently observed, while the depressive types are not so common.

5. That involutional melancholia and depressions of various forms are rare in the colored, as these individuals do not react to the graver emotions—grief, remorse, etc.—owing to the fact that they have no strict moral standard and no scrupulosity as to social conventions; the absence of self-depreciatory ideas of sin, etc., is most noticeable.

6. That the prevalence of syphilis in the colored race has had a marked influence on certain types of mental disorder, as general paresis, cerebral syphilis and other luetic infections, and that these are very much in excess of the same diseases in the whites.

7. That while the colored race indulge in and imbibe large quantities of alcohol, they are in a degree immune to its influence and the reaction to its toxic effects is less lasting.

8. That paranoid conditions are present, but that true paranoia is rare, especially among the colored women.

9. That hysteria is a disease which is rare in the colored.

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AN ESTIMATE OF ADOLF MEYER'S PSYCHOLOGY.

By G. V. HAMILTON, M. D., Montecito, Cal.

It is the object of this communication to present an estimate of Adolf Meyer's psychology as it finds expression in the various writings from which the following quotations are taken:

In the life of the individual and in interindividual relations reactions occur and determine developments to which neither anatomy nor physiology in their narrow sense can do justice, but in which we are forced to speak in terms of psychology or at least a biology which is able to scrutinize the reactions of behavior and mentation, the conditions under which they occur and their effects in the course of life and behavior of the organism that shows them.[1]

We must be able to see an event as an experiment of nature, study the conditions, the modifiability, the role of the various integrated parts of the event and the probable modes of dynamic hanging together of the facts.[2]

Among mental diseases certain chains of events recur with such regularity that they become valuable clinical units or reaction-types.[3]

One of the first things that have proved of value (to psycho-pathology) . . . . . has been the abandonment of fussing over supposed *elements* of psychology and the attempts to explain chains of events out of such elements. It proved more satisfactory to speak in terms of situation, reaction and final adjustment.[4]

I teach the students to start essentially from six types of disorders or reaction-types.[5]

Meyer gives these types as, "the reactions of organic disorders," "the delirious states," "the essentially affective reactions" (manic-depressive disorders), "paranoic developments," "substitutive disorders of the type of hysteria" and "the types of defect and deterioration" (the dementia præcox group).[5]

In every anomalous mental constellation we ascertain: 1. The infrapsychic components (general somatic disorders or effects of disorders of special organs, including the nutritional and coarsely histological disturbances of the nervous system). 2. The components which are fully sized up only with psychological conceptions, either overt and direct miscarriage, or substitution.[6]

The next problem is the relation between mental events and other biological types of function, *i. e.*, circulation, respiration, metabolism, digestion and elimination, regeneration and neuro-muscular regulations.

Meyer then presents his conception of this relation by taking "as a paradigm of comparison the functions of respiration." This leads him to state that:

The complex coordination of the mental reaction-types at any given moment is one of the striking features which has led to the concept of the stream of consciousness with which, for all practical purposes, we would, as in the process of respiration, include the whole range of pertinent collaboration of the sense-organs, nervous system, skeletal and vascular muscles, glandular activity, etc. It is a specific mode of collaboration.[10]

We are, I believe, justified in directing our attention to the factors which we see at work in the life-history of the cases of so-called dementia præcox. We are justified in emphasizing the process of a crowding out of normal reactions, of a substitution of inferior reactions, some of which determine a cleavage along distinctly psychobiological lines incompatible with reintegration.[4]

We certainly do well to leave open the question whether a disorder of anabolism and catabolism incidental to the prolonged and often profoundly vitiated attitudes and defects of balance is not sufficient to explain the findings (in the brains of dementia præcox patients).[5]

Mental reactions constitute a type of biological reactions which act as a part of a *system of symbolization*, working through their *meanings* as well as through the direct *change* they involve, a conjoint collaboration of needs of intercommunication between individuals, and within the same individual a complex interaction of various simultaneously occurring components, and the possibility of using the same symbols or reactions in the elaboration of constructive imagination, in the chronological memory-scheme, in the utilization of what is beyond immediate experience, etc.[11]

The stream of mentation and the entire somatic activity, as far as the stream of mentation forms its essential link, form the mental activity of the moment, and the only difference between the extremes is the extent of collaboration of extra-cerebral machanisms.[12]

Meyer has shown us that if our methods of analyzing mental phenomena are to be effectively applicable to therapeutic problems, they must not sacrifice the identity of significant modes of psychophysical response to an effort to describe and explain such phenomena in terms of irreducible psychical and physical elements. His attitude is similar in this respect to that of the behaviorist. Of equal va'ue to psychiatry is his conception of the psychologist's function as including an initial identification of "nature's experiment," *i. e.*, of sequences which have for their essential components, "situation, reaction and final adjustment." *

* In a somewhat earlier communication than the one of Meyer's from which the above quotation is taken the writer proposed the behavior formulation, "situation—inner elaboration—reaction."[13] The term "final adjustment" is open to the objection that final adjustment is often the end product of a series of situation-reaction sequences which conform to many different types and which extend over a period of years.

Psychiatry owes much to Meyer's efforts to develop a "psychobiology" or "dynamic psychology" which shall be more directly and more generally applicable to therapeutic problems than is the psychology of the text-books, but it is to be regretted that his defense of a biological attitude toward psychical phenomena brought him into conflict with parallelists who, like Titchener,[15] insist that "we cannot regard one mental process as the cause of another mental process" and that "the nervous system does not cause, but it does explain, mind." Meyer's attitude toward the mind-body relationship complicates, quite unnecessarily I believe, a situation into which the psychiatrist cannot afford to drag philosophical issues. I will endeavor to show in another connection that it is possible for the psychiatrist to adhere to the metaphysically uninterpreted material of his specialty, without thereby ignoring its biological aspects. It is sufficient, in this connection, to call attention to the following considerations: (a) The physician has practical need of applicable knowledge of psychical processes as *psychical* and of neural processes as *neural*. (b) A total "experiment of nature" that is made up of both psychical and physical events cannot be reduced to a single set of elements on the basis of a purely scientific (as opposed to philosophical) method of dealing with the facts.

Meyer's revolt against narrowly schematic psychological conceptions seems to have led him into another kind of error, viz., failure to follow up important generalizations by the adoption of adequately definite methods for systematic and detailed analyses of psychiatrical material. His descriptions and explanations of mental disorders too often go but little beyond mere references to significant general trends of "psychobiological" events. A natural consequence of this fault is a certain looseness and vagueness of terminology, so that we are often left in doubt as to the exact connotation of descriptive and explanatory terms which are encountered for the first time in his own writings. For example, he speaks of "clashing of instincts," "deterioration of habits" and "habit conflicts," events which are presumably reducible to more or less elementary psychobiological components. But he does not give us a sufficiently intimate account of what happens—from his viewpoint—when instincts clash, habits deteriorate and conflicts become habitual (or when habits conflict, as the case may be).

His recognition of sequences of events which have for their essential components "situation, reaction and final adjustment" suggests a definite connotation for the term "reaction-type" as he employs it. But Meyer leaves us in doubt as to whether he would regard concrete psycho-physical reactions which have certain characteristics in common as constituting a reaction-type; he refers to the nosological entities of Kraepelinian psychiatry as reaction-types, in spite of the fact that non-organic mental disorders often owe their positions as nosological entities to the intensity and frequency of occurrence of one or more types of reaction rather than to the dissimilarity of such reactions to those of normal life. The final morbid adjustment may, indeed, point to an ultimate domination of the patient by tendencies the reactive expressions of which stand out in such bold relief and under conditions that render their manifestation so inappropriate as to suggest the presence of totally new elements of psychobiological analysis. But a closer examination of the facts will usually show that there has been a more or less gradual accentuation of tendencies which come to expression in normal life, and an enfeeblement of other tendencies which normally sustain a balancing or corrective relation to the accentuated ones.

Hypnotism affords a striking example of the grotesque effects of an undue accentuation of a given tendency at the expense of its normal balancer or antagonist. Under normal conditions two tendencies which stand in an antagonist-protagonist relation to each other are set in operation whenever something is presented for acceptance or rejection on the basis of its reactive value as true or false. Before I assent to the proposition, "Your house is burned to the ground," and initiate the necessary adjustment thereto, there is a moment of hesitation on my part, during which my "positive suggestibility" tendency is opposed by my "negative suggestibility" tendency (*vide* Bleuler[20]). But if I were hypnotized, *i. e.*, if my positive suggestibility were grossly accentuated at the expense of my negative suggestibility, I should be apt to assent to the most obviously false proposition almost without hesitation.

It is, of course, largely a matter of definition that is involved in my objection to Meyer's use of the term *reaction-type* to designate the nosological entities of psychiatry; but definition may be a serious matter when the soundness of scientific conceptions is at stake.

In this case it is better, I believe, to speak of characteristic disturbances of reactive-tendency balance when we have nosological entities in mind, and to employ the term *reactive sequence* to designate a typical trend of events. This would not only enable us to formulate definite biological conceptions of mental disorders, but would suggest a starting-point for detailed analyses of psychiatrical material. For example, in making practical use of views and principles which I have obtained, in part from Meyer's psychology and in part from my own studies of animal and child behavior, I am accustomed to regard concrete reactions and the determinants thereof as the resultants of analyses of reactive sequences. The reactions that enter into a given reactive sequence are often found to conform to several different types, as do also the determinants of reaction, so that individual developments owe their nosological position to broader features than those of a single reaction-type. I recall in this connection the difficulties of a psychiatrist who was under the influence of Kraepelin's seventh edition. Most of his patients were of Anglo-Saxon descent, but an occasional Irishman came under his observation. When he was asked for a diagnosis in the case of an Irish patient he would often respond, impatiently, "Another of those d— Hibernian psychoses." The reaction-types that prevail in normal Celtic behavior are expressions of a somewhat different balance of reactive tendencies from that which is usually found in the Anglo-Saxon, so that manic-depressive or dementia præcox disturbances of the Celtic balance are apt to give somewhat unfamiliar clinical pictures.

That Meyer's doctrine is a broadly biological one is suggested by his employment of such terms as *instinct, habit, capacity, reaction-type, reactive tendency, balancing factors, disturbances of balance, final adjustment, defects of attitude*, etc. Now most asylum physicians whose duties are found in the wards rather than in the laboratory sooner or later come to an appreciation of the emptiness of psychiatrical studies which lead to nothing but description and classification. A common-sense analysis of their experience soon convinces them that something of value for treatment will usually be disclosed by studies of such dynamic factors as are identified by the nurses and lay relatives of the patients. Meyer has shown that it is far more profitable for the physician to follow up the hints that are contained in a nurse's or a relative's

explanation of why the patient thinks or feels or behaves thus and so, than to rest content with hypothetical explanations which can be proven or disproven only by those whose interests lie in the direction of histo-pathological and physiological research. But he has not given the physician who must deal with the living subject a definitely applicable psychobiological doctrine which may guide him in his efforts to arrive at biological explanations. Meyer's failure in this direction is largely due, I believe, to the faults to which I have already referred, viz.: Failure to give explicit and detailed presentations of the conceptions that are the foundations of his psychology; lack of systematic methods for detailed analyses of psychiatrical material; vagueness and carelessness of terminology, and dependence on a debatable philosophical position for safety from logical pitfalls when there is need of making causal explanations of psycho-physical sequences. As a corrective to these faults I would suggest some such formulation of Meyer's conceptions as follows:

1. From the viewpoint of biological psychology the individual is a reactive mechanism, and is impelled to reaction by the operation of various appetitions and aversions acting in conjunction with environmental stimuli. For the sake of simplicity and convenience of statement we employ the terms *appetitions* and *aversions* to designate processes which are conceived in physiological rather than psychological terms when we think of these processes as causal connecting-links between externally derived stimuli and the neural processes that are essential conditions of either psychical or physical efforts at adjustment (*vide* Muensterberg [17]).

Problems.—What appetitions and aversions enter into a normal human reactive equipment? What is their phylogeny and ontogeny? How shall we identify and classify them as biological *quanta?* How determine their reactive values?

2. Behavior, whether as gross bodily movements, gestures, changes in the innervation of facial muscles, speech, etc., or as psychical activity, is reducible to relatively distinct activity-coordinations to which we may refer as *reactions.* These reactions are classifiable, in the first instance, as conforming to various types. But a given reaction not only possesses certain characteristics in common with reactions which differ from it only as to negligible details, but it may also enter into characteristic phenomenal sequen-

ces with other reactions of the same or of different types. This gives us the term *reactive-sequence*, a useful term for the designation of broad clinical trends.

Problems.—By what methods of analysis and according to what criteria shall we identify individual reactions and reaction-types?

In seeking to estimate the dynamic value of a given type of reaction our investigations ought to be along lines suggested by such questions as, "At what period of individual human development does it normally appear?" "What is its biological value in this life of the youngest or the most primitive organism in whose behavior it is apparent?"

3. Individual differences of response to a given type of situation cannot be wholly accounted for on the assumption of differences in equipment of appetitions and aversions, hence additional factors must enter into consideration as determinants of specific modes of response. In previous communications[1] I have referred to reaction as most directly attributable to the operation of definite biological properties which have structural representation in either inherent or acquired features of neural organization. These properties are conveniently designated *reactive tendencies*. Some of them are inherent features of individual constitution, and as such are indentical with the *innate conative tendencies* of McDougall's conception.[2] That is, they are instincts in the narrower sense, because they come to expression in the form of specifically appropriate adjustments by reason of an inherent set of the nervous system rather than by reason of the modifying effects of experience. Other reactive tendencies are almost wholly attributable to the modifying effects of experience, although, of course, their development reflects the presence of an inherent *capacity* of the nervous system for undergoing the appropriate modifications. Habits may therefore be regarded as acquired reactive tendencies which have definite, albeit subtle and often impermanent, structural bases.

Problems.—Many interesting problems grow out of the circumstance that individual reactive-tendency equipment is extremely plastic, so that not only acquired but inherent tendencies are capable of modification by experience. The literature of comparative psychology contains many careful studies of such modifications under experimental conditions, but there are yet to be solved many vitally important problems which suggest themselves to the psy-

chiatrist in this connection. We need, first of all, adequate criteria for the identification of reactive tendencies as definite biological properties; and much of directly practical value could doubtless be obtained by investigating various possibilities for developing new tendencies and reinforcing or weakening old ones.

4. A given reaction may be the resultant of a *conflict of tendencies* which have been set in operation by various appetitive, aversive and externally derived stimulative processes. A conflict of this kind is due to the circumstance that only one or one kind of the tendencies that are thus set in operation can come to full reactive expression at a given moment. The individual is therefore to be regarded as subject to the pull of tendencies, some of which, at least, enter into protagonist-antagonist relations with one another.

The situation is, of course, far too complex to permit a neat dissection of human personality into so many pairs of reactive tendencies which sustain this relation to one another. On the contrary, the facts point to the existence of complex corrective and reinforcing interrelationships among the tendencies that go to make up personality. Nevertheless, if we are to employ the methods of science rather than those of artistic inspiration and intuition, we must not allow our unwillingness to pass through a necessary phase of over-simple conceptions and formulations to deter us from endeavors to give an orderly account of the facts with which we have to deal.

Problems.—What factors are involved in the development of habitual conflicts? Why do two tendencies or sets of tendencies which stand in a corrective or balancing relation to each other enter into such conflicts in one individual and not in another? Under normal conditions one of two conflicting tendencies quickly dominates at the expense of its antagonist, thereby permitting the rapid succession of concrete efforts at adjustment that gives to most of normal human as well as to animal behavior its trial-and-error character. Is the failure of tendency-conflicts to terminate quickly in the domination of one tendency and the suppression of its antagonist due to defective action of the appetitive-aversive factors that set them in operation, or to the absence of still other tendencies which normally turn the balance decisively in favor of one or the other of the conflicting tendencies by reinforcing it?

What factors are involved in that type of abnormal development to which Meyer so aptly refers as "deterioration of habits"? To what, if any, of the following factors may it be attributed? (a) Inherently low "potency" (*vide* Lasurski[10]) of the tendencies on which the deteriorating habits depend for their continued existence. (b) Potency-lowering and distorting effects of environmental conditions. (c) Increase of the potency of perhaps inherently hyper-potent tendencies by unfavorable environmental influences, with consequent suppression of tendencies which ought merely to be balanced rather than suppressed. (d) Infective, toxic or traumatic interferences.

Since enviromental conditions have a selective action on the various tendency-functions in the sense of bringing certain tendencies to expression more frequently and more vigorously than others, and since acquired tendencies are largely products of such conditions, how shall we set about to evolve and apply principles which may be applied in a therapeutic way for the restoration of morbidly disturbed reactive-balances?

5. Most of the reactive tendencies in which the psychiatrist is interested come to a twofold expression, viz., in objectively apparent efforts at adjustment and in psychical activities. This does not necessarily imply either the existence or the non-existence of a causal relation between a *tendency as a physical quantum* and its psychical expression, while at the same time it affords us a convenient physiological middle term between physical stimulation (whether this be initiated by outer conditions or by inner processes) and psychical response.

From my viewpoint reactive tendencies are structurally conditioned organic features which are capable of affecting one another by their own activities, and of being affected by such diverse factors as inwardly arising impulsions, outwardly derived stimulations, chemical, bacterial and autogenous intoxications, physical trauma and the processes that are involved in brain-growth and brain-decay. We *describe* these tendencies in terms of their physical and psychical expressions, *i. e.*, in terms of what happens when they are set in operation. But since the psychical happening has, in each case, its physical conditions which are conceivable in terms of neural processes, and since it is simpler to conceive a succession of psychiatric events as having a causally conditioned continuity when

we ascribe causal values to the neural and other physical events rather than to the psychical events as such, why is it not best to adhere to strictly physiological explanations? There is sufficient and sound precedent in medical literature to justify us in describing in psychical terms that which we conceive—when in quest of causal interpretations—in physiological terms. On this basis it is possible, I believe, to develop a biological psychology which shall be quite as free from logical and philosophical embarrassments as is physiological chemistry, and quite as fruitful as a biological doctrine which calls for a metaphysical bridging of the mind-body gap.

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DEMENTIA PRÆCOX, PARAPHRENIA AND PARANOIA.*

REVIEW OF KRAEPELIN'S LATEST CONCEPTION.

By GEORGE H. KIRBY, M. D.,

Director of Clinical Psychiatry, Manhattan State Hospital, Ward's Island, New York.

About twenty years have elapsed since Kraepelin first formulated his views regarding a group of cases for which he proposed the name dementia præcox. From the point of view of the older established psychiatry, Kraepelin's teachings were looked upon as decidedly revolutionary, and, as was to be expected, they aroused a great deal of objection and criticism. Much of this earlier opposition was, however, directed against non-essential aspects of the main issues, and did not in any appreciable way controvert the underlying constructive viewpoints as perceived by Kraepelin; in fact, these have to-day won a general acceptation among psychiatrists. Kraepelin's great contribution was his demonstration of the need of more careful study of individual symptoms and correlation of these with the entire course and outcome of mental disorders; this applied particularly to those chronic psychoses which he brought together under the name of dementia præcox. Kraepelin's work gave us essentially new prognostic principles and greatly broadened our perspective over the whole field of psychiatry.

Notwithstanding the admirable work of Kraepelin and his untiring energy, as revealed in the successive editions of his text book, the term dementia præcox remains to-day the symbol for a very imperfectly circumscribed clinical group. Widely divergent views are held regarding the nature of the disorder; as to its causation nothing definite is known, and by at least one group of psychiatrists it is more and more questioned if what we call dementia præcox is after all to be looked upon as a *disease* in the usual sense of the word. A review of Kraepelin's latest work in this field should be of some interest at the present time, and serve perhaps to bring clearly before us some of the more important problems in the de-

* Read before the Ward's Island Psychiatrical Society, April 14, 1914.

mentia præcox and paranoic groups. We cannot under any circumstances dismiss lightly the views of one who has exercised the greatest influence on modern psychiatry. It seems to me rather essential to examine carefully Kraepelin's viewpoint and see just how far it takes us. If its limitations are once perceived, then we may get square with certain issues which otherwise might seriously hinder further progress.

Kraepelin's position regarding dementia præcox has been fully restated in the eighth edition of his text book, where 350 pages are devoted to dementia præcox and allied disorders. In this latest presentation Kraepelin has worked over and rearranged the whole subject matter of these chapters and has introduced under dementia præcox a number of new subgroups. He treats separately and in an entirely new way the paranoic conditions. His conception of paranoia as a distinct form of mental disease is given in a recent article in the *Zeitschrift für d. g. Neurologie und Psychiatrie* (Originalien, Bd. 11, page 617).

It is not purposed to undertake here a critical review of Kraepelin's presentation of dementia præcox, but rather to sketch as briefly as possible his general position and then to discuss more particularly the problems as he sees them in the study of the mental make-up, then examine the basis for the auto-intoxication theory, and finally consider the facts offered to support the view that dementia præcox is an organic brain disease.

Under the general heading of the "Endogenous Deteriorations" Kraepelin forms two large groups: (1) Dementia præcox and (2) paraphrenia. Both of these disorders have the common peculiarity that they develop independently of any perceptible external influence, and are therefore considered to originate from internal or endogenous causes.* In both groups we have to do with essentially chronic psychoses with more or less mental impairment, and Kraepelin considers it not improbable that the same disease process may be found to underlie both types.

* Endogenous causes in the Kraepelinian sense refer apparently only to internal *physical* factors: metabolism disturbances, auto-intoxication, altered bio-chemical products, etc. Psychogenic causes, emotional states, mental conflicts, etc., are not included.

Dementia Præcox.

In regard to the general symptomatology of dementia præcox and the nature of the disorder, we find that Kraepelin has not modified his previously expressed views in any important particular. Before discussing some of the general considerations which underlie his conception of the psychosis, let us glance at the new subtypes he now proposes and of which there are no less than eight.

1. *Dementia Simplex.*—An insidious, almost imperceptibly increasing apathy. Impoverishment of ideas and loss of interest. Onset usually about puberty or reaching back even into childhood. No delusions or hallucinations.

2. *Hebephrenia or Silly Dementia.*—Progressive, usually rapid, deterioration, marked from the first by peculiar behavior, hallucinations, paranoid trends or ideas of grandeur, scattering of thought, emotional variability. Depression often at the beginning. Particularly characteristic are the silly behavior, uncalled for laughter and infantile attitudes.

3. *Simple Depressive or Stuporous Forms.*—Cases which show a prolonged depression, with or without stuporous symptoms, followed by gradual deterioration.

4. *Depressions with Delusion Formation.*—Depressive cases showing a marked delusion trend, often of grotesque form, and accompanied by abundant hallucinations.

5. *Excited Forms.*—Cases showing severe and long persisting excitement. According to clinical course the following subtypes are differentiated.

(a) *Circular Type.*—Usually begins with depression and prominent delusion trend, subsequently a marked excitement develops. The persistent senseless excitement is most characteristic for this type.

(b) *Agitated Type.*—Cases showing continuous restlessness and excitement, passing into deterioration, with or without remissions.

(c) *Periodic Type.*—An infrequent type showing an episodic course, excitements, followed by remissions. The intervals vary between the attacks, but the final outcome is deterioration. Some of these cases were formerly classed under manic-depressive in-

sanity. The monotonous or impulsive activity and the limited range of thought help to differentiate these cases from the manic excitements.

6. *Katatonic Forms.*—Cases which show both katatonic excitement and stupor. The alternation from one phase to the other is the chief characteristic of this group, which is thus much more restricted than formerly.

7. *Paranoid Forms.*—Types in which delusions and hallucinations are the most prominent symptoms, but in addition there appear the characteristic features of dementia præcox. Two types are mentioned:

(a) *Dementia Paranoides Gravis.*—Cases beginning with simple delusion formation, but showing later plainly peculiar behavior and emotional deterioration. These cases occur especially in middle and later years of life.

(b) *Dementia Paranoides Mitis, or Hallucinatory Deterioration.*—Cases developing like the first paranoid type, but showing a peculiar terminal condition, with long persistence of hallucinations and delusions. Because the core of the personality and the behavior seem less severely damaged, one may speak of a *dementia paranoides mitis.*

8. *Forms with Marked Speech Confusion (Schizophasia).*—Shown particularly in the end stages, with relatively less deterioration in other fields.

Kraepelin states that the lines between these various groups cannot be sharply drawn and admits that there are numerous transitions. Still the designated types recur with sufficient frequency to attract attention, and they are thought to have a certain bearing on the further course and outcome of the disorder. The excited and katatonic forms are, for instance, most likely to have long remissions, while in the simple, hebephrenic and paranoid forms remissions are much less common. Also certain of the types appear to lead to a more severe terminal deterioration than do others, *e. g.*, the katatonic, hebephrenic and first paranoid type are most apt to sink into a deep dementia.

While these various subgroups may strike one as somewhat artificial, yet on the whole I think the making of such subdivisions is probably quite desirable. Certainly it tends to emphasize clinical differences instead of smoothing them out and we need not waste

time in the future trying to make a dementia præcox case fit into one of the three old subforms; many cases obviously did not fit into any one of them.

Now as to Kraepelin's ideas regarding the nature of dementia præcox: He looks upon all of these varied clinical pictures as manifestations of an underlying disease. He thinks of it as an entity, a special disease process, just as one looks upon general paralysis as a circumscribed disease entity. He conceives of it as arising from causes originating within the body, probably some glandular activity is disturbed, or some toxin is elaborated which damages the nervous tissue.

In the symptomatology of dementia præcox we find that Kraepelin has not departed from his former position. He singles out the *will* and the *emotions* as basic elements in mental life and reduces the primary symptoms of dementia præcox to disturbances in these fields. Two fundamental groups of symptoms are therefore emphasized. The first depends on the weakening of those emotional impulses which form continuously the motives for our voluntary activity. The second group of symptoms arises from a loss of the inner unity of mental life; there is no longer an harmonious adjustment between the intellectual, emotional and volitional reactions; intrapsychic co-ordination is impaired, so that the emotional responses do not correspond to the content of thought and the motor reactions tend to occur independently of the will, and hence assume an impulsive character. In other words, we have to do with a disorder which affects primarily the feelings and the will impulses and brings about an "intrapsychic ataxia." These fundamental disturbances would then account for the failure of interest and energy, the apathy and indifference, the impulsiveness, negativism and odd behavior, and finally, also, the discrepancies between ideas, mood and behavior.

Passing now from the symptomatology to a consideration of the etiological issues we will take up Kraepelin's idea of the role of the personality and mental make-up in the development of dementia præcox.

Kraepelin discusses the question as to whether dementia præcox can be looked upon as a constitutional psychosis dependent perhaps upon a degenerate family stock. He points out that heredity does not appear to be more frequent in dementia præcox than in certain

other psychoses, and that the best known constitutional disorders, such as hysteria, manic-depressive insanity and psychopathic states do not lead to a deterioration but to a periodic recurrence of symptoms. He believes that dementia præcox is more comparable to epilepsy. In both epilepsy and dementia præcox we have certain peculiarities of disposition, yet we can only explain the deterioration by assuming that we have to do in both cases with progressive destructive disease processes which apparently most often begin back in childhood or early adolescence.

Kraepelin acknowledges that a large proportion of the cases of dementia præcox show well-marked peculiarities of mental make-up long before a definite psychosis sets in. He singles out the following as the most frequent types of personality met with in his dementia præcox cases:

1. Shut-in, seclusive type, most frequent in male cases.
2. Sensitive, irritable, excitable, obstinate type, mostly women.
3. Lazy, unsteady, shiftless, mischievous type, mostly boys. These often become tramps or criminals.
4. Good-natured, pliable, conscientious, diligent type, mostly boys, who are especially marked by their strict avoidance of all youthful naughtiness.

In discussing the relation of these abnormalities of make-up to the psychosis, Kraepelin considers two questions:

Are the peculiarities the expression of some general harmful influence which lowers the resistance so that dementia præcox subsequently develops?

Are the so-called peculiarities of make-up the earliest and first signs of dementia præcox itself?

Kraepelin inclines to the latter view and points out that it is just these peculiarities that dementia præcox cases show during remissions, stationary stages and recoveries with defects. We then see that persons who were apparently quite normal before the psychosis have become quiet, shy, reticent or stubborn, irritable and sensitive or mild, harmless and easily influenced. That is to say, some cases show as a result of the psychosis just those peculiarities which others show before an obvious mental breakdown.

Another point is that very often a child at a certain age will develop these peculiarities of make-up, but the definite psychosis only occurs much later.

Kraepelin even goes so far as to suggest that the different types of make-up described and the prominent individual traits are represented in the clinical picture of the subsequent psychosis itself or the end stages: seclusive, obstinate traits appear later as negativism, odd behavior accounts for mannerisms, irritability corresponds to impulsiveness, over-conscientious, pliable, easily influenced personalities show traits which later are transformed into automatic obedience and suggestibility.

He concludes that the peculiarities of make-up which so often precede the definite psychosis are a part of the same process or cause which brings about the dementia præcox; that they belong in fact to the beginning of the disease itself, which therefore often really begins in early childhood.

When individuals show these dementia præcox traits in their make-up, but fail to develop a psychosis later, we have to think of a dementia præcox which did not for some reason or other progress or develop further. We know from stationary cases of dementia præcox and apparently healed cases that a non-progressive stage is often reached. These undeveloped cases of childhood correspond to Bleuler's latent schizophrenia.

Kraepelin next discusses the primary cause of dementia præcox. This, he says, remains unknown, but many facts indicate that the psychosis is the result of a self-poisoning, arising probably from a disturbance in metabolism.

It is of interest to note just what evidence Kraepelin is able to assemble to support this view. He mentions (1) that the anatomical alterations described in the brain resemble those of a chronic poisoning, and (2) the occurrence of idio-muscular irritability, increased excitability of nerves and muscles and increase of the tendon reflexes.

Other considerations which might support an auto-intoxication theory are mentioned by Kraepelin, but admitted by him to be still wholly unproven. He refers to reports of certain blood changes and results of metabolism studies which have not, however, been confirmed. He thinks, moreover, that it is important to note that dementia præcox frequently develops in connection with childbearing; that thyroid symptoms are sometimes found; that fluctuations in the body weight are common; that epileptiform attacks are

met with; that sudden death occurs; that osteomalacia has been reported in dementia præcox.

He remarks that while we are ignorant of the source of the poison, we might also raise the same objection regarding the meta-alcoholic disorders. (He refers evidently to the theory of secondary intoxication, by unknown poisonous products, to account for the development of delirium tremens, Korsakow's disease, and other alcoholic psychoses.)

Kraepelin expresses the firm conviction that in dementia præcox we have to do with a widespread and severe disease of the cerebral cortex. The work of Alzheimer and Nissl forms the foundation for this claim. Anatomical changes differing somewhat in the acute and chronic cases are described. Most marked alterations are reported to occur in the second and third layers of the cortex. The chief findings are sclerotic nerve cells, infiltration of cells with a lipoid substance, disappearance of nervous elements, overgrowth of neuroglia and appearance of amœboid-glia cells.

Kraepelin discusses the relation of these findings to the clinical picture of dementia præcox. He considers first the localization of the process in the various functional areas of the cortex, and secondly the distribution of the process in the different layers of the cortex. This discussion impresses one as being highly speculative and is not in the least supported, as far as I know, by any established facts regarding the physiology of the different parts of the cerebral cortex.

If the frontal cortex is found to be most severely affected it would correspond to the seat of the mental functions most damaged in dementia præcox. The higher and finer mental qualities which are generally accredited to the frontal lobes are chiefly damaged in dementia præcox in contradistinction to the memory and acquired knowledge which are well preserved. Damage to the anterior central convolutions would account for disturbance of volitional impulses and muscular activity. As this damage does not lead to actual motor paralysis or apraxia we must suppose that the centers for liberation of movements are not affected.

The disjointed speech and neologisms which occur in dementia præcox resemble the productions in sensory aphasia. This points to a localization of the process in the temporal lobe; the prominence of auditory hallucinations in the psychosis also points to an irritation of the temporal lobe.

Kraepelin then puts forth the hypothesis that the second and third cortical layers have to do with elaboration or translation of perceptions into general concepts, of sensations into the higher feelings, of impulses into volitional activity. Thus a further explanation of the symptomatology of dementia præcox is possible. If Alzheimer's findings are confirmed, then disease of the small cell layers of the cortex must, according to Kraepelin, be looked upon as responsible for those mental disturbances which are most characteristic for dementia præcox.

It is often pointed out that the dementia of dementia præcox is not at all like the dementia of the well-known organic states, *e. g.*, paresis, arteriosclerotic and senile dementia, differing from these particularly in respect to the good preservation memory. Kraepelin attempts to meet this by suggesting that the deeper layers of the cortex have probably more to do with the faculty of memory than the upper layers which are supposed to be chiefly affected in dementia præcox.

Paraphrenia.

Paraphrenia is composed of cases part of which were formerly classed under dementia præcox and a part under paranoia. Paraphrenia is differentiated from dementia præcox by the fact that throughout its course the main disturbance appears to be in the intellectual sphere, and one does not meet with the peculiar disturbances of will and the marked emotional deterioration which are so characteristic of dementia præcox. In other words, paraphrenia comprises those chronic delusional states which do not show in their course the deterioration in conduct, the odd behavior, or the emotional indifference of the ordinary dementia præcox case. Paraphrenia would thus correspond in a large measure to the group of paranoic conditions and certain cases allied to dementia præcox as used in the diagnostic tables of the New York State hospitals for the past ten years.

The paraphrenia cases, notwithstanding certain resemblances to dementia præcox, do not show the same disruption of the personality, because there is far less disturbance in the emotional and volitional sides of the mental life. The clinical pictures are characterized chiefly by the marked paranoid delusions. Impairment of the emotional reactions occur, if at all, in the latest stages of the disorder, and there is never the dulness and indifference which

appear so often as the earliest symptoms of dementia præcox. The behavior of these cases also remains well in harmony with the ideas and moods. The following four subforms are attempted under paraphrenia:

Paraphrenia Systematica.—This is the principal paraphrenic group and includes a large proportion of cases of the type formerly described by Magnan under *délire chronique à évolution systématique* (chronic delusion of systematic form). The disorder develops very slowly with change in character, suspiciousness, sensitiveness and irritability, then the trend is gradually evolved in the form of delusions of persecution accompanied by hallucinations. Later on (sometimes from the first) ideas of grandeur appear. The peculiar conduct, the incoherence, the emotional and ideational incongruities of dementia præcox are lacking. The thorough working out of the delusion system, the adequate emotional reactions, orderly behavior and grandiose trend are the most characteristic features.

Paraphrenia Expansiva.—A smaller group characterized by florid delusions of grandeur and persecution, with a prevailing elevation of mood and mild excitement. Visual hallucinations (visions) are prominent. Cases of this type were formerly looked upon by Kraepelin as being chronic manic states. Almost if not all the cases occurred in women and it is possibly a purely feminine type.

Paraphrenia Confabulans.—A very small group in which falsifications of memory dominate the clinical picture. The ideas often reach back to childhood; particularly common is the claim of royal birth, the original paranoia of the older writers.

Paraphrenia Fantastica.—Abundant delusions of an extremely absurd, senseless, disconnected and changeable form. Particularly frequent are ideas of bodily annoyance and persecution. Speech peculiarities also occur and Kraepelin admits that there is more doubt about this type being a clinical unit, separable from dementia præcox, than there is about the others here described.

Paranoia

There is a small group of cases for which Kraepelin proposes to still reserve the name of paranoia. A new conception is, however, formulated for paranoia which is now looked upon as the reaction

of an abnormally constituted personality to the struggle of life. It is the outgrowth of personal difficulties in adaptation to the environment and is not to be looked upon as the result of a disease process, as are dementia præcox and paraphrenia. Paranoia is rather a teratological maldevelopment.

The paranoic character forms the foundation for the psychosis. These personalities show a great overvaluation of self, combined with suspiciousness. The psychosis is characterized by an extremely gradual development of an intellectually produced and unassailable delusion, with complete retention of the integrity of the personality. Hallucinations do not appear and there is none of the disturbance of conduct, of will or of emotion as occurs in dementia præcox. The clinical picture carries above all the stamp of a delusion of greatness which crops up apparently after all kinds of internal conflicts and turmoil and represents the fulfillment of the secret wishes and day dreams of the individual.

Most of the cases are able to get along in society and their commitment is usually not necessary. They may be known as reformers, discoverers, statesmen, founders of new religions, philosophers, etc.

Of particular interest is the fact that Kraepelin thus brings paranoia definitely into the group of psychogenic mental disorders.

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MENTAL DISTURBANCES ASSOCIATED WITH ACUTE ARTICULAR RHEUMATISM

By ROBERT H. HASKELL, A. B., M. D.,

First Assistant Physician, State Psychopathic Hospital; Instructor in Psychiatry, University of Michigan.

(From the Psychiatric Clinic, University of Michigan, Ann Arbor, Mich.)

The subject of mental disturbances associated with or dependent upon definite physical disease is always of great interest. When the two patients whose histories follow were admitted to the Psychiatric Clinic of the University of Michigan during the month of July, 1913, we were immediately struck by the fact that acute articular rheumatism as an etiological factor had not been represented up to that time among our exogenous psychoses.

The question of the specificity of symptomatic psychoses is one that is still debated. At one extreme is Siemerling, who believes that we cannot differentiate exactly the various forms of mental disturbances arising during the course of infectious diseases from one another, let alone from other disease pictures. In an intermediate position stands Bonhoeffer, who grants that there are certain reaction types in exogenous psychoses, but yet feels that they cannot be clearly separated according to the preceding infectious disease. At the other extreme is Kraepelin, who writes: "Even though at the present time I can say little to dispute incontrovertibly these opinions, I am none the less convinced that we will some day have to recognize not only the integrity of the infectious psychoses in general, but also be able to diagnose different types as they develop during the course of the different infections from their psychical manifestations." His point of view, at least as far as acute articular rheumatism is concerned, is very strongly supported in a recent exhaustive study of the subject by his one-time assistant, A. Knauer, who has gone over the clinical material of the literature very critically, called out many cases as non-usable and added 12 new cases.

With this question still *sub judice* we must be very critical in the selection of cases that we place in this category. The mere fact that a patient who either has, or has had recently, an acute infec-

tious disease, shows signs of mental disturbance does not necessarily mean that this psychosis is dependent entirely upon this infection. The psychosis may have existed prior to the infection, or it may be of a purely endogenous type and in this case stand only in a secondarily etiologic relation to the physical disorder. The latter relation we see particularly frequent in cases of dementia præcox and manic-depressive insanity. Likewise a concurrent incident, such as uremia or a delirium tremens, which develops during the course of an acute infectious disease, should not be mistaken as a mental disorder dependent upon the infectious disease in question. If these general principles are firmly adhered to, many cases described as mental disturbances dependent upon acute articular rheumatism, particularly those from non-psychiatrical hands, will have to be thrown out of consideration. One great drawback to a complete understanding of many of these cases is the loose use of general terms and an inadequate description of the symptoms present. For that reason we have deemed it advisable to present the clinical history of our two cases in considerable detail.

J. H. S., farmer, aged 42. Family history negative. Four healthy children. No alcoholism. General medical history unimportant until ten years ago, a severe attack of acute articular rheumatism lasting four or five months. In the last four years rheumatoid attacks each spring.

In June, 1913, another definite attack of acute polyarthritis. He was in bed only two weeks and then went to a neighboring town to take mineral baths. He here had a short relapse of his rheumatism, but began to improve again until by July 17 he had been free from joint symptoms for several days. Then, without premonition, he suddenly complained of the "queerest feeling in his head as if something shot through it just like lightning," and for three days following spoke of a dull pressure in his head. On the 20th the rheumatic pains again appeared in his leg, his ankles became swollen and then his hip joint became affected. On the 22d he fainted during the bath. On the 23d he was found crying, was drowsy and said little. That evening he became very talkative, repeating over and again some imaginary conversation he had had with his wife and sister the night before concerning his death. He had some realization that things were not right with his mind and said, "I know there is something here (pointing to his head), but don't know what to do to get rid of it." For the next few days he spoke often of his going to die, was moderately restless and had at times auditory hallucinations. He was admitted to the Psychiatric Clinic as a voluntary patient on July 28, 1913, five days after the development of distinct mental symptoms.

On admission he had a temperature of 100° by axilla, pulse of 100 and respiration of 18. Physically he was a raw-boned farmer, somewhat undernourished. His skin showed a dirty, yellow, cachectic color. Mucous membranes pale. No swollen or painful joints. His heart was slightly enlarged and showed a loud systolic murmur at the apex which replaced the first sound. Blood pressure was 116. Blood count showed 4,000,000 reds, 13,500 whites and 75 per cent hemoglobin. The neural examination was unimportant. A blood culture and a urea estimation were made by the Medical Clinic of the University Hospital which reported negative findings in both instances. Urine was acid, sp. gr. 1021, negative for albumin and sugar, with a few granular casts in the sediment. Wassermann examination on the blood was negative.

He was rather suspicious and apprehensive and took a very lively interest in everything about him. His consciousness was clear, but his train of thought was considerably disjointed. "I died half a day ago. I bet you I was all cold and stiff and they warmed me up." (Are you in Heaven?) "Yes, I think so. I been here a couple of days. I'm nicely arranged here. No, I only came here this morning. Can you fellows test my blood?" (What are you going to do here?) "You let me lie here fifteen minutes and see what I'm going to do. You got me warmed up. Put me in a tub of cold water. I'm dead now." (Are you sure you're dead?) "I can't tell if I'm dead or not—my wife is dead and my sister." (When did they die?) "She ain't dead yet. Who's that screaming out there? That's my wife." (How did you die?) "I was in the hospital over here." (What hospital?) "Ann Arbor Hospital." (Did you die there?) "I died right at home. You let me lie here for an hour and cool. I'll bet you anything—." Here he closed his eyes and pushed the clothes away from him apprehensively. (What's the matter?) "I haven't got a heart in there; it's been quiet for four hours. You got me warmed up. You take me over there and get my perspiration started and press a button." (What's the button for?) "To kill people. I've got my eyes shut to give you the chance." (I thought you were dead?) "You put me in a bath tub and let me cool off." He would lie quietly in bed for short intervals, then become restless and talkative, call out to his wife, who, he thought, was being detained in an adjoining room and make forceful attempts to go to her.

For the next few days his axillary temperature continued around 100°. He remained quiet as long as left alone, but would become suspicious and frequently resistive at any examinations made. He would answer few questions. He was mildly stuporous and expressed his unclearness in such ways as "they began to mix things—I don't know—I'm J—S—, but things got kind of mixed up—and—well, I don't know." He would then become muddled in saying the alphabet and then realizing his inability to make such tests would refuse to talk any more. On the 4th it appeared certain from his suddenly sitting up in bed and listening intently that he was hallucinated, but he would not admit this. No experimental visual hallucinations could be elicited by pressure on the eyeballs. He spoke of his "acting

kind of funny, but everything around here is kind of funny and I can't understand why the people here should look at me so suspiciously." During the following five days he gained in strength, ate very well and reached a point where he would talk freely about his sickness in a very logical way, explaining his suspiciousness as due to fear, but yet at the same time refusing to co-operate in any detailed psychological examination. On the afternoon of the 9th, following a pleasant visit with his wife, his temperature rose to 99.2° by axilla, higher than it had been for five days: the next morning it was 99.4° and that evening 99.6°.

During the afternoon of the 10th he became confused, somewhat more apprehensive, would regard each attempt to take his pulse and temperature as a sinister move and frequently refused. He ate very little. That night he was on the move constantly, but saying little. On the 11th he was afraid he was going to be killed, and would not step on the scales for fear of electricity. He sat on the edge of his bed, looking with extreme apprehensiveness from one corner of the room to the other, particularly at a ventilator opening, through which perhaps he heard the voices of some of his family, and he frequently would lift up the sheets and blanket or bend over the side of his bed suddenly to search for his children. His attention showed considerable distractibility, but not sufficient to let his train of thought be led from the main idea: his children and what was going to become of them after his death.

That night he slept five hours and at the morning visit was found reading a paper. He dismissed his experiences of the preceding day with the simple statement, "I guess it was only my imagination." He showed no thought disturbances in his conversation, read a paragraph aloud without error and related its contents correctly and in detail.

On the evening of the 13th, when the other patients were asleep, he called to the physician, and after looking about the room carefully to be sure no one was paying attention, wanted to know "what underhanded mess was on." He slept six hours and in the morning showed the same slightly stuporous state.

On the 15th, following a visit of his wife, he was discouraged and sad. On the 16th he became gradually more restless, left his bed and, tiptoeing to and fro in his room, would whisper confidentially "just a minute—just a minute—you just wait and see," suddenly bending down to look into the ventilator, as suddenly darting around the corner, only to come back to repeat the performance. As the day wore on he became more active and fearful, running around the room in all directions. His attention could not be gained except for an instant by strong stimuli, and yet he jumped, startled, at every noise from without. There can be no question about his being hallucinated at this time. He said later he saw some children in the room and believed that we thought he was going to kill them. He slept but little that night. The next morning he lay quietly in bed. He had little remembrance of the day before beyond that he thought some harm was coming to his family. He evaded questions, would talk

about his early sickness in a rambling sort of way, leading into inaccuracies, but each time correcting himself. He realized the increased inaccuracies that came with fatigue and refused to talk long.

He continued quietly in bed for two days, but on the afternoon of the 19th became more unclear and inaccessible; would take no nourishment, and refused to have his temperature taken.

On the 20th, following a fair night's sleep, he lay on his bed talking incessantly; the main theme was the numerous changes that had been made during his residence, in which he surprised one with the accuracy of his memory and also with his knowledge of the names of the other patients, attendants and doctors, which, from his constant suspiciousness, it was very rarely possible to test with any degree of satisfaction. There was a certain amount of distractibility in his talk as one patient or another, passing his open door, would furnish the stimulus, but it quickly came back to the original theme: the same questioning why things should be so mixed up. During the day he became less talkative, more restless and again fearful of some great harm. He said he "would rather be shot, lynched and skinned alive than suffering what he was going through." Noises from outside he would interpret as coming from the ceiling or walls of his room and would run in all directions to escape them. He became destructive of his clothes in an endeavor to protect himself and early in the evening, when the attendant's back was turned, rushed out of his room and smashed a window light in an attempt to escape. He continued fearful, protecting himself behind his mattress at times, keeping close track of numerous black objects on the walls and floor and, when they were suddenly suggested, brushing them from his person. "No one could blame me for breaking the windows to escape from being turned into a black man." He gradually became quieter and slept from midnight on. He had but little remembrance of the happenings of the day before beyond that he believed he was in prison and that his wife had come in an automobile, of which he probably heard many outside, and that we would not let her take him. This morning she came to visit him; he confusedly asked, "Why, you're my wife, aren't you? Do you say she wasn't? She is, aren't you, Mama?" He quickly readjusted himself and according to his wife he talked better than at any time heretofore and she couldn't see but that he was well.

He remained quiet and as far as one could observe, considering his reticence, clear, until in the afternoon of the 22d he awakened from a nap confused and apprehensive, and in his fright soiled the bed. He quickly gained his orientation, was somewhat chagrinned, but remained a little dull the remainder of the day.

On the 23d he was unusually apprehensive all day and was anticipating dangerous attacks from all sides. He remained mute to all questions as to what caused his fears, but occasionally, as he would cover his head with his bedclothes and cower in an extremely fearful way, he would whisper, "Just a minute, just a minute—now look there," when he would close his eyes and shudder.

On the 24th he was again fearful and pulled his bed to pieces to provide himself with protection from threatening attacks. Toward night he became even more delirious, looked anxiously about him in all directions, particularly at the ceiling, and at frequent intervals would cover his head with a pillow, close his eyes and shudder in anxious expectation of some terrible attack, the nature of which could not be learned at the time. He was not aggressive and when pressed to tell of his ideas would pay little attention beyond, "Just a minute, just a minute—now look there," and cower most terrifiedly. He slept not at all that night. In the morning he was decidedly unclear. He asked, "Ain't there lots of valuable stuff around here that someone could use without its being wasted?" What the connection was is extremely uncertain. A little later he said he felt sure that he was going to be burned at the stake. He became clearer after a little rest. He smiled sheepishly when questioned about his conduct of yesterday. "I thought they were shooting niggertine into me: they would inject it into my blood to mix the nationalities. They seemed to be squirting this stuff down through the ceiling. There was kind of a riot like this and seems to me as if we got clear over into Europe and finally there was only so many white people." (Why should they want to inject niggertine?) "I kind of thought while I was around here dissatisfied and my wife wanted me to come home, and you know one day the nurse was dissatisfied and told me it was all imagination, and I said perhaps it was, but he got mad and quit and this tall fellow came. Now I think when I came over here to Ypsilanti the bed set this way and unless I was awfully deranged my bed was that way and the other fellow—the short one—he made the bed and he kind of got disgusted at me and quit, didn't he?" (Where are you?) "Why, I'm in Ann Arbor, in the hospital, ain't I? I thought maybe you were laughing, that I'd done something—that's why I stopped. Well, I was kind of paying attention to them—they was kind of grinning—of course, if you say it's all imagination—of course I don't know—you say this rioting is all imagination—of course I don't know, but it looks like it." He showed the very least distractibility, but finding himself wandering in his remarks, he would pull himself together and start in again. He could follow the alphabet through correctly in good time. He added sevens correctly as far as seventy, where he became undecided as to the correctness of his answers, and proceeded hesitatingly to eighty-four; then becoming more puzzled, he started in again and continued to forty-two, where he stopped with the remark that "I, of course, was paying attention, but those fellows was kind of grinning at me." He would make no further attempts. He was "too sick a man to do such things."

During the next three days he became quite clear, read the papers, commented on indifferent subjects, but yet remained always the least bit suspicious. On the 29th, after a sleep of eight hours, he awoke rather dazed, became rapidly apprehensive, fearful of impending harm and spoke of his room being occupied by men whom he hunted under the bed and in the corners of his walls and ceiling. He slept not at all that night, remained

much the same the next day, but gradually quieted down toward evening when he slept eight and one-half hours and awakened on the 31st perfectly clear, but with only a very hazy remembrance of the preceding two days. On the following day he was removed from the hospital against advice. Though he had been anxious to go, he became very suspicious when dressed, and even when in the hands of his people continued fearful of some impending danger. After his removal home his condition fluctuated between lucid intervals and the same unclear state that he showed here, without, however, any outbursts of excitement. He gained in weight and strength and in a month's time had entirely recovered from his mental disturbance, about four months after its beginning. He has continued perfectly well and shows no signs of mental peculiarity.

E. M., widow, aged 42. Father probably was arteriosclerotic and died at 76 of heart failure; mother died following an apoplexy at 82; family history otherwise is negative. Her life up to the present trouble has been unimportant. During the spring of 1913 she cared for her mother for two months in her last illness and also for her sister during an attack of mastoiditis; nothing unusual in her conduct developed during this period.

In May, following a tonsillitis, she developed acute articular rheumatism. She made a good recovery after five weeks in bed, with no signs of mental disturbance. Her physician did think that toward the last she called him many times when it was unnecessary and that she was fatigued rather excessively by the visits of friends, etc. Her convalescence progressed favorably following a change to her summer home, until early in July she suddenly became very much confused, smeared her face and hands with ink and spoke of herself as no longer being Mrs. M. She was found to have a temperature of 101°, but no signs of any joint involvement were found by her physician. During two weeks in a general hospital she was mildly delirious; spoke of herself as being dead and thought she ought to be buried; all her relatives were dead; everybody had the cholera. Her temperature averaged about 1° above normal.

She was admitted to the Psychiatric Clinic as a voluntary patient July 30, 1913. She had a T. P. R. of 100², 110, 20. Physically she was well nourished; lungs and abdomen negative; heart slightly enlarged to the left and had a loud blowing systolic murmur at the apex replacing the first sound; blood pressure 138. There were a few minute spots on the left shoulder which suggested the possibility of petechiae, and which later disappeared in part, but no others reappeared. Neurological examination unimportant. Urine and blood were negative. Ophthalmoscopic examination showed in each eye a slight neuroretinitis, but no gross fundus lesion. Wassermann examination on blood negative.

She was somewhat exhausted from a train ride of about 100 miles and required assistance in walking. She wore a far-away, dreamy expression on her face, and it required several repetitions before she would attend to questions. Some of these she would then answer promptly in a clear tone of voice; other times she would mutter complacently in an undertone about

being dead, of being changed into someone else and of someone killing her brother. She was correctly oriented for place and person, but not for the exact date. Toward night, after several hours' sleep, she became mildly restless and as soon as left alone would slip out of bed and wander about like a somnambulist. The next morning she had a clear recollection of her coming to the hospital, though, as so frequently afterwards, she referred to the time interval as seeming so long. She volunteered little during the day. Her answers were fragmentary. The next day, in response to terrifying delusions about her brother and sister having their heads beaten in and bleeding to death, she became extremely agitated for a short while. "I hear them shrieking. No one need tell me. Don't you hear them? I have seen heartless people, but you are the most heartless of all. I can hear you, Rob."

On the night of the 6th she threw a saucer at an electric light nest in the ceiling to liberate three friends whom she saw there, and the following morning she pointed out the dead bodies of two friends in the courtyard. She begged that we bury them, or at least remove them to get rid of the smell. Though at times agitated in expressing these ideas, her attitude now is quite calm. She speaks of herself as having been killed and of having been burned to a crisp with her brother and others in an electric furnace and then pieced together again. The preoccupied, dreamy state continues and it is difficult to hold her attention. It took her four minutes and fifty seconds to perform the A test with 52 per cent errors. Adding tests were impossible; she would grasp what was wanted but seemed helpless to elaborate. Short stories were read to her; she would apparently listen to them carefully, but would return only merest fragments without connection. There was little change until on the 11th she became distinctly stuporous for a few hours; no resistance to passive movements or cerea flexibilitas. She was passing very little urine, only five ounces in that 24 hours, which, however, was free from albumin and casts. The next day following increased fluids her urine rose to its usual amount and the stuporous state entirely disappeared.

There was little change in her general attitude. As long as some one was with her she would remain quietly in bed, glancing about in an unclear, dreamy sort of way. The minute her nurse left her she would slide from bed and wander around. Save for short periods, when she would express terrifying delusions concerning the fate of her relatives, she gave little spontaneous speech. As soon as talked with, she started the same disjointed, unclear recital of how she had been changed, etc., of which the following is a sample.

"There's—aren't you the doctor we met at Ann Arbor? No, you're not. Are you—I thought—no—." (What is it?) "Well, don't put that down. I'm sure—the only way I can tell my real identity is by my feet and hands." (What is your real identity?) "Well, I was Mrs. ——— of ———. No, oh, dear, don't start that again—was that yesterday that we had such a time?" (Had such a time?) "Um—um—in the first place I was Mrs. ——— of ———." (Yes?) "But I had the same—well, I had

the same feet, the same toes, that I have now—well, this is certainly a mixed up affair; perhaps I better leave it where it is—and I went to—I was Mrs. ——— of ——— and then I went to the ——— hospital and—I mean the ——— hospital—I was there quite a long time—and, oh!"— (Yes.) "I don't see what they're laughing at. Do you?" (Who is laughing?) "Those people out there. Those boys." (At you?) "I don't know—seems as if they must be. Then—let's see what year was it I went to ———. I was there one season—. I think it was ———. The trouble is I left my ring in the ——— Savings Bank—I was nineteen—." (You were nineteen?) "It was in the year 1893—I know I was 23 when I was married." (What were you telling me about?) "About children, do you mean—I had four children—and—and—and—." (Yes, now go on.) "Then when I came home from the ——— hospital—why, my teeth were changed you know—I talked so perfectly terrible." (Yes) "—and, eh, eh." (Yes). "Why, I can't be that one, either—yes, there was only one Mrs. ——." (What was it?) "That was only one Mrs. —— let's see, how did that go? I know I talked so terribly." (Yes.) "Well, I don't know what just did happen to me, but I know that—oh, for goodness' sake, don't." (Looking as if hallucinated, though it could not be definitely determined.) "Well, when I came back from the hospital, my mother was very sick and my sister-in-law was very sick." (Yes, go right on.) "Well, it isn't so easy to go on, you know. Then I was taken to —— — ——, — oh, yes I—." (What happened there?) "Well, I was taken sick and had to be carried home—." (You were carried home?) "Yes, oh, that isn't—possibly—dear me." (What?) "It's a queer—." (It's a queer what?) "It's a clear mixup—now my hands are just as they were and let's see, who was it straightened my teeth?" (Just what happened?) "That was the time I went to the ——— hospital (And then?) "Oh, I was sick quite a long time and talked terrible." (And where did you go then?) "Oh, from there I went home." (And then where?) "I went down—." (Yes.) "Why no, I'm not a cheat. I don't want to cheat any one, but I'd like to know just what my identity is—the first—summer I was at —. —I was 40—or 30." (Where are you now?) "Well, when I got up this morning and looked out I thought it looked like the High School. —Is this Ann Arbor or ———?" (I asked you.) "Well, I don't know. It looks like ———."

She has several times given the day correctly, but the date regularly is one week off. She names each of the physicians by the same name which is that of her maid at home. She reads aloud with one unimportant error the Shark Story from Franz, but repeats only, "Why about the steamer and the shark and the streak of blood—I didn't remember what else there was." She could not be influenced into accepting statements which were not there and recognized those which were in the story as they were presented. She copied from dictation Franz's Pig Story, in which the only errors were a rare omission of a small word and a reduplication of a final "ing." Questioned immediately as to the substance of what she had

written, she replied with a smile, "Pigs is Pigs and Guinea Pigs," and passed it off with having paid no attention to what she had read. She could describe only in a very meagre way pictures shown to her, but questioning again showed that she grasped most of the details correctly. In adding tests she would start properly, but soon began to show long pauses with grossly incorrect results and then break out with something of this sort, "Goodness—don't punish any one on my account." (What were you doing?) "Why, adding sevens." Onuf's card test was explained to her and she kept repeating, "Now it's every seventh one you want," yet she would each time pile up the cards in opposing piles of three or four, or tricks of seven, etc. She appreciated promptly the slight differences in colored yarns shown her and named them correctly. Her attention was easily distracted by little incidental noises and frequently she would precede remarks about her toes and feet by glances in that direction, perhaps caused by fleeting pains.

During September she became a little more unclear. She talked little and spent much of her time standing in a dazed sort of way in the middle of the room, fingering her hands and looking about her inquiringly. She slept practically not at all unless after medication or cold packs. She rarely could be urged to eat and was fed mechanically three times a day. She held her weight and even gained in strength.

There was little change during October. She edged her way through the rooms, occasionally mumbling to herself. One day she was particularly unclear and undressed herself in the hall. She made no defense to pin pricks. She rarely talked. On one occasion she muttered, "I always was so selfish," and then a few moments after, to questions as to what she ate last, answered promptly, "Tube-feeding," and, as if appreciating some humor in the connection, laughed. She would occasionally make some facetious remark to another patient. She would refuse to eat, resist being dressed and then perhaps the same day assist the nurses in some of their duties. On a few occasions she would suddenly stop what she was doing and go into the hall, certainly to attend to some auditory hallucination, but she would not admit them. Not now or at any time was it possible to induce visual hallucinations following pressure on the eyeballs.

The same dreamy, unclear attitude continued into November, but with considerable improvement. Her friends she recognized and questioned them about her home. She was correctly oriented. She said she must have come here some time in July or August. She must have been pretty sick when she came here, but otherwise has no recollection of her conduct or her ideas. Numbers of four integers she could repeat correctly after thirty seconds' intervening conversation. The plumber picture was shown her for ten seconds; she described it as, "I saw a man turning and the water rushing out of the pipes—is that the reason stocks ran down?" (What else?) "That was all—and a lady running away. That's all—isn't it? And the water was scalding the other man." (What was the dog doing?) "I didn't see any dog," and turning the picture over, said, "There

isn't any," showing by her smile that she appreciated the purpose of the question. The inaccuracies in the tapping experiment had practically disappeared though the time was somewhat lengthened. The form test from Binet was shown her for 10 seconds. She grasped the general outline but was unable to complete the details of the drawing correctly. She was given a bunch of keys to count. "Why, you offered them to me once before, didn't you, a long time ago?" Which was so. She counted them as 14, then 13, then 15, until reminded that she failed to include the long one by which she held them suspended, when she said, "Fifteen and this, the master key of them all (marked Master), which makes sixteen." She wrote without hesitation her name and street address correctly. She was removed from the hospital on that day, November 19, 1913, to the Oak Grove Hospital in Flint. Dr. Burr informs us that shortly after coming there she lapsed back into a condition similar to what she had been in here, when she was resistive and refused to eat. Auditory hallucinations became prominent for a time. This passed off in a few weeks when she became more accessible and communicative, gained complete insight into her condition and was discharged from the hospital in February, recovered, seven months from the onset of the mental disturbance.

That a mental disturbance may supervene during the course of acute articular rheumatism was recognized by as early writers as Boorhaave, Van Swieton and Sydenham. A few isolated cases of such complications were reported during the first half of the past century in English, French and German journals of that time. The first study to attract general attention to the importance of the subject was by Griesinger in 1860. He mentioned the acutely delirious states and commented on their resemblance to the more common deliria associated with typhoid, cholera, malaria and pneumonia, but his main interest in that paper was in the more chronic course of certain cases of a melancholic, stuporous nature, occasionally associated with phases of excitement and rarely with chorea, which appeared suddenly with disappearance of the joint symptoms. Their prognosis was more favorable than the acutely delirious cases, and recovery was more apt to be initiated by a return of the joint symptoms. His conclusion was that these mental disorders ought not to be considered as sequelæ or accidents of convalescence, but that they are only a protracted form of the primary disease.

Casuistic contributions became more numerous, but the next important study was made by Simon from the Hamburg General Hospital. His experience with these cases was very extensive and in three separate papers he records in very useful fashion 29 cases

of his own, with short but good digests of the 62 cases accessible to him from the literature. Just what factors should have caused Simon to have had such abundant material is hard to see at this distance. Fifteen hundred and seventy-seven cases of acute articular rheumatism admitted to this hospital in the years 1858-1871 furnished 18 cases of mental disease, or slightly more than 1 per cent of their hospital admissions of rheumatic fever developed a mental disturbance. He gives figures from the insane hospital at Schleswig to show that of the 78 cases of mental disease dependent upon infectious disease among their total admissions of 2993, there were 15 cases dependent upon acute articular rheumatism, which means that about ½ per cent of all their admissions had this disease as their etiologic factor. These figures appear rather high, especially in comparison with figures from Vienna which show that, in three years of this same period among 600 cases of acute articular rheumatism, not one developed a mental disturbance. It is interesting to note here, however, that Vigla saw in three months of 1853 five cases of rheumatism develop a mental disturbance and only one such case in the whole ten years preceding. From his more extensive material Simon disagreed with Griesinger's idea of a single type of mental disturbance and also attempted to show that these psychoses differ in no way from other post-infectious mental disorders.

The most comprehensive and first really analytical study of the subject is the section on acute articular rheumatism in Kraepelin's prize essay, published in 1881, on the Influence of Acute Diseases on the Origin of Mental Disorders. He was able to collect from the literature 190 cases. After approaching the subject from all possible aspects he separated his material into two big groups, according as the mental disturbances occurred in the febrile period or in the convalescence. Those cases of the febrile period he subdivided into two main groups: the first, or hyperpyretic group, comprising those rapidly coursing cases, usually fatal in a few hours, which come on suddenly in the first week or early part of the second; and the second group, roughly including those cases which present for the most part the usual picture of the febrile delirium. Some of the cases which occurred late in the febrile period, usually after an especially long run of the fever or after several complications or relapses, he grouped, as far as symptomatology and

etiology are concerned, with the more protracted cases of the convalescent period, a suggestion at this time of his infective-exhaustive states as opposed to the febrile deliria. Kraepelin's studies stimulated numerous case contributions, but the next exhaustive survey of the subject is by Pribram in the Nothnagel system. He comments at length on the entire literature of the subject, but adds little new. He does state that outside of two cases of severe delirium, in an experience at that time comprising 1000 personally observed cases of actute articular rheumatism, he had never seen but one develop a prolonged mental disorder, and that one in 1868.

There are numerous contributions in the French and English literature, but little of a nature to attract special interest at the present time. Joffe in 1908 reported three personally observed cases with comments on twelve cases from the literature. Her particular interest in the matter lay in her bacteriologic studies. American writings on the subject have been exceedingly infrequent. The first that we have been able to find was a clinical lecture by Wood in 1874, in which he merely presents a comatose case of cerebral rheumatism brought back to consciousness by the use of the full cold bath. Da Costa in 1875 wrote from his experience on twelve cases. Unfortunately few of his cases would be so classified at the present day. The next that we have been able to find in the American literature are two short papers by Hoppe and Williams.

We have been particularly interested recently in reading the article by Hewlett, presenting the results of a collective investigation into the therapeutic differences between the natural and the synthetic salicylates, to note the varying appearances of delirious episodes in the cases there considered. Among ten of these cases reported by Withington of Boston, delirium was noted in two and one developed "melancholia," rather a high percentage of complications. The one case with wild delirium was fatal in about twenty-four hours; the mental state was said to be such as one sometimes sees in persons who have taken large doses of the salicylates. What treatment this man had had prior to admission was unknown, but he had had only 60 grains in the hospital. Taylor, of Cleveland, among 16 cases, reported only one delirium. That patient, a man, aged 31, had been in the hospital in 1911 with a similar attack, complicated by severe mental symptoms, in which he had received over 1000 grains of sodium salicylate without

becoming toxic. In his second attack of rheumatism in April, 1912, he became "delirious with delusions and hallucinations," apparently recovering in ten days. Dr. Heyn of Cincinnati reports among nine cases of acute articular rheumatism three cases with short and mild nocturnal delirious episodes, apparently of the first grade, and one in which the delirium lasted several days. This last was in an alcoholic individual and was considered delirium tremens. And yet Dr. Warren Coleman of New York, whose patients were in Bellevue Hospital, where one might assume there would be the largest number of patients predisposed by purely extrinsic factors to delirious features, reports not a single case of mental disturbance.

Osler says, in commenting on the five cases of delirium which appeared in his 307 cases, that he thought in at least four of them the salicylate of soda was responsible for the condition and in the next sentence speaks of a peculiar delirium occurring in connection with rheumatic pericarditis which "may" be excited by the salicylate of soda either shortly after its administration or more commonly a few days later. In Taylor's case, the patient in his first attack of rheumatism complicated by severe mental symptoms had received 1000 grains of sodium salicylate without showing signs of toxicity. In the second attack he became delirious after only 60 grains of the salicylate, but the mental symptoms continued for ten days, long after all signs of the salicylate had disappeared from the urine. That the salicylate may have any important influence in precipitating the disturbance, as has been suggested, must be greatly questioned as one goes through the literature and compares the number of cases published before the introduction of the salicylate treatment with their rarity in the journals since that time, and it appears necessary to agree with Lepine, who says that cerebral rheumatism has certainly been less common since the regular and systematic use of sodium salicylate therapy.

Though their fundamental ideas on the subject were quite different, Kraepelin and Simon were not so far apart in their classification. In the study of his 12 cases of the protracted type of mental disturbance, Knauer follows them fairly closely in the separation of his material into four groups.

First. Those cases starting in with an anxious delirious excitement and followed by a phase of melancholic stupor. This class makes up about 43 per cent.

Second. Those cases showing alternating periods of excitement, stupor and mental clearness. They constitute about 12 per cent.

Third. Those cases presenting throughout their course the mildly depressed stuporous state described by Griesinger. They make 28 per cent of this group.

Fourth. Those cases with an amentia-like state of excitement throughout the entire course. This group forms only 9 per cent.

Our two cases form very excellent samples of this second and third group respectively. As an illustration of the first group, where the beginning phase of an anxious delirium is followed by a period of melancholic stupor, we take the liberty of presenting a digest of one of his cases.

A twenty-year-old shop girl, after a month's course of rheumatism, during which time she voiced numerous hypochondriacal ideas, on May 30, with the outbreak of a severe chorea, shrieked aloud and talked of dying. A few days later she developed hallucinations in all spheres; thought she had become pregnant; carried on a double conversation with the voices and told of unheard-of crimes that were being committed. Her sentences were fragmentary and disconnected. This state of mild excitement continued for a month, when she became quieter but inaccessible. During August her chorea disappeared. She began to pay no attention to her surroundings, became untidy and gradually passed over into a decidedly stuporous state, where she had to be fed and made no defense to pin prick. By the end of September she had lost thirty pounds. She then gradually began to eat, took some interest in her surroundings, but talked little until the end of October, when she became more accessible. She had a total amnesia for her illnesses, but some insight. She continued to improve physically and mentally and was discharged in December, recovered.

To illustrate the fourth group Knauer himself uses in greater detail the case that Kraepelin presents in his Einführung. Of this we venture the following meagre abstract.

A thirty-year-old white-washer, without predisposing family history or alcoholism, in his fourth attack of acute articular rheumatism. In the fourth week his pains suddenly ceased and he began to talk confusedly. He expressed ideas of persecution and self-incrimination. Pushed his family away in fear. Prayed much. Became restless and ran about his room. Would not eat and held his urine and bowels. Admitted to the Heidelberg Clinic on the 10th day.

On admission he showed transitory echopraxia, echolalia and catalepsy, but no negativism. His expression was impassive. He answered only after repeated questioning. He was approximately oriented. He shortly developed auditory hallucinations, which continued prominent. The voices were usually threatening and of a deprecatory character. His general attitude varied from a mildly depressed state, when he would lie in bed, more or less inaccessible, to a varyingly agitated condition, ranging from mild yammering to violent running about, knocking on doors and even striking those about him. His perception was usually acute and accurate, but his elaboration was very faulty. Though told repeatedly where he was, he could not quite grasp the situation. He spoke of himself as "being bewitched." In talking he would usually get mixed up and quickly commence to yammer a disconnected tale in which past experiences, his delusions, present incidents, recent remarks and comments on his surroundings were all mingled. Continuous mental efforts in reckoning, etc., were impossible. He expressed various ideas of self-incrimination and persecution. He held himself responsible for a murder being featured in the newspaper. Though giving good reason why he didn't want his tongue stuck or his fingers cut off, he was helpless to protect himself. His condition continued so for about three months, when he began to gain in weight. His days of excitement became fewer, but not less severe. He was more irritable, ideas of reference became more prominent and in his excitement he would strike down those in his way. He gained some insight into the nature of his past state, explained the origin of certain ideas he had expressed and was discharged, recovered, four months from the beginning of his mental disturbance.

Though in these four groups can be included the large majority of all the protracted cases, there are still unclassified certain cases of undoubted rheumatic psychoses which must be left as atypical. Besides these more protracted cases of mental disturbance there are the acute mental states, seen much more frequently probably by the internist than by the psychiatrist. Of the highly fatal and extremely acute conditions, Trousseau's case, which was responsible for the formation of an apoplectic type in his classification, is the classic example. A male patient, whose mental state had shown nothing unusual, suddenly arose from his bed with the cry of thief, attacked those about him in a blind rage and was dead in less than fifteen minutes. Joffe records a similar case in an electrician thirty-three years old. He gave a history of very excessive alcoholism. His autopsy showed old and recent vegetations on his heart valve flaps and an enlarged fatty liver, which on microscopic examination showed " extreme steatosis and the hepatic cells destroyed as in icterus gravis." The history and the findings in this

case are hardly such as to warrant this being considered as a pure case of cerebral rheumatism. Though the condition may appear as suddenly as in the two cases mentioned, more frequently the patients have shown for several nights some restlessness, talking in sleep, anxious dreams and mildly delirious periods or more rarely have been unusually indolent and apathetic. Then, as a rule toward the end of the first week or early in the second, there is suddenly in the morning a rapid rise in temperature; the affected joints are no longer painful; the mild muttering delirium vanishes and is replaced by wild frenzy, in which the patient attacks those about him or may jump through the window in an attempt to escape. There is sometimes vomiting and local or generalized convulsive features. The temperature rapidly increases to even 111° and death usually follows in a few hours. Sometimes the frenzy changes to stupor, then coma and death. The prognosis of this class of cases is eminently bad. In Kraepelin's 22 cases the mortality was 82 per cent.

Besides these more striking cases there are all grades of delirious episodes. Many of these are rarely available for psychological observations. A very interesting description of an exceedingly mild aberration is given in Knauer's article. It was a non-alcoholic individual who, in the fifth day of his acute articular rheumatism while on the way to the general hospital, fell into a state of confusion, in which he could not tell where he was, his name or his age. He could not tell where he was sick and made no objection to movements of his swollen joints. He was taken to the Psychiatric Clinic, where he was rather inaccessible, cried and groaned and complained of pains in his head. In a couple of hours he became clearer, recollected that he had not been able to think quite clearly, but still had no appreciation of what had happened. His temperature and joint condition lasted three days longer, but no other mental disturbance was perceptible.

Between such mild clouding of consciousness and the hyperacute conditions just spoken of, there are all gradations. The delirium usually occurs in the latter part of the second week and usually when the disease has run a hard course. About half the number show an intensely violent excitement, occasionally a depressed, agitated state, which soon passes into collapse. They frequently are hallucinated. The mental disturbance may last only a few hours, as the extremely mild case quoted above, but usually from

two to six days. The mortality is high, about 52 per cent, death usually occurring in collapse.

It has been noted frequently, in the acutely delirious states particularly, that with the onset of the mental symptoms the joint conditions disappear. This led early to the ingenious idea that, inasmuch as the rheumatic effusion could disappear suddenly only to reappear instantly in another joint, the cerebral symptoms were easily explained by a metastasis of the essential rheumatic condition to the brain meninges. The disappearance of the joint conditions, however, is usually only apparent. The patients will let their limbs be moved with indifference and jump around with impunity, but the swelling and redness usually persists, and if the mental state is transitory, as soon as the patient returns to his normal consciousness the pain perception returns. At autopsy in patients dying in periods where this question could arise the usual pathological changes are present in the joints.

In a reverse direction, it was noted by Griesinger in the cases at his disposal that with the reappearance of the joint symptoms the mental state showed signs of improvement and this generalisation formed one of the conclusions of his paper. Study of the cases available now, however, does not substantiate any such conclusion, and it appears safe to say that in most cases a relapse of the arthritis or any other severe complications, if it has any decided effect, tends to make the mental state worse.

We have purposely avoided as far as possible the relation of chorea to these cases. From the point of view of specificity it seems to us unfortunate that of the 12 cases presented by Knauer five should have been complicated by chorea. To be sure the close relation of chorea to acute articular rheumatism has long been known and was firmly fixed on a scientific basis by the cultivation by Wassermann of a streptococcus from the blood of a young girl dying in a post-rheumatic chorea psychosis and the production from this culture of an acute polyarthritis in experimental animals. Yet chorea may result from other causes and it seems to us that the stand he takes in two of his cases is open to question. The first is a 13 year-old schoolboy who at 9 had an acute endocarditis. Early in May an attack of chorea without temperature or joint involvement. Gradual improvement, so that he was discharged on June 9. Eight days prior to that date an attack of

erythema exudativum over the whole body, which disappeared in three days. After his discharge from the hospital the chorea became worse. He soon showed definite psychical abnormalities. He became irritable, pugnacious, impulsive, threatened suicide, and was very restless. He quarreled with his schoolmates and was quite unmanageable. He had spells of raving and shrieking, until in one of these spells he was, on December 3, picked up on the streets by the police and taken to the Psychiatric Clinic. He showed little mental abnormality here and he was in January transferred to the Children's Clinic. He shortly developed a fever with acute polyarthritis. On the third day of his fever he had an outburst of transitory violence. Following this, for four or five days he was inaccessible, but gradually returned to his normal level and was discharged recovered at the end of the month. Knauer looks upon this mental state as a recurrent condition dating back to the erythema exudativum, a cutaneous expression of the same infection which seven months later caused the joint affection. His Case Nine is equally open to question, inasmuch as the patient, already of peculiar constitution, besides her chorea, had been definitely abnormal to the extent of alternating excitement and stupor, suggestions of negativism, vivid hallucinations, etc., for several months before the rheumatism. Others of his cases, even though complicated during the course of the mental disturbance by the development of a chorea, are acceptable without debate. He finds in agreement with other investigators that the average age in 100 cases of post-rheumatic chorea was approximately 14 years; of post-rheumatic chorea psychoses approximately 18 years; of post-rheumatic psychoses without chorea about 29 years, and theorizes from these considerations that with increasing age the point in the brain attacked by the toxic agent gradually shifts from the lower motor centers to the higher psychical fields. In view of the fact that the post-rheumatic chorea is looked upon as a fairly definite entity, it hardly seems wise to accept such cases as characteristic of what he seeks to prove.

The exact cause or causes of the mental disturbances during the course of acute articular rheumatism are not clear. Many of the delirious episodes during the acute stage of the disease are undoubtedly pure fever delirium and should not be looked upon in any sense as specific. There are those who, without other signs

of psychopathic makeup, regularly show a delirium with only a slight rise in temperature. Such individuals may later develop an endogenous psychosis; this we see not infrequently in our manic-depressive patients. In the hyperpyretic cases, conveniently so called, the increasingly high temperature is simply an expression of the extreme toxæmia which is affecting the nervous mechanism of the heat regulating center as well as the brain cortex. That high temperature of itself is not sufficient to cause the mental symptoms is attested by such observations as Rosenthal's case, with a temperature rising in the first 24 hours to 111.4° F., and Da Costa's, with a temperature of 110° F., without signs of delirium. Whether this toxæmia is purely bacterial in origin is unknown. Kraepelin has utilized in the manufacture of a theory the observations that sometimes in these hyperpyretic cases all signs of joint involvement actually do disappear and suggests that the sudden resorption of this fluid floods the body with an excessive amount of some toxic substance which cannot be excreted or made innocuous fast enough to prevent damage to the cerebral cortex.

In the protracted cases there are numerous additional factors. The prolonged toxæmia, the altered metabolism as a result of this and the physical exhaustion from the disease, together, in many cases, with the added effects of various complications or several relapses of the polyarthritis, all serve to bring about the changes in the cerebral cortex. There are few histological studies according to modern methods of the changes in the cortex in these conditions. Josue and Salamon and Williams have reported their findings, which show changes in the staining capacity of the cells, disappearance of the chromatophilic substance resulting in a pale homogeneous appearance and degenerative changes in the cell nucleus with its occasional entire destruction. Neuronophagocytosis is prominent.

The outcome in the superacute cases is imminently bad. As already stated the mortality is 82 per cent. In the acute infectious delirium the prognosis is more hopeful, but still serious. Fifty-two per cent of this class die. In the more protracted cases of the late febrile or convalescent period the prognosis is uniformly good for recovery. The course is usually long, from several months to a year.

The treatment is first that of the primary disease. So long as any indications exist there does not seem to be any valid reason for stopping the salicylates. What therapeutic measures should be taken from the mental aspect depends upon the conditions present. The sitophobia, which is so common and which should be met by tube feeding because of the absolute necessity of building up the general nutrition of the individual, the frequent sudden outbursts of wild frenzy or of suicidal impulses, and numerous other reasons of like character make it highly advisable that the patient be in a hospital and preferably one especially equipped for the treatment of acute mental conditions.

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ON THE TOPOGRAPHICAL DISTRIBUTION OF CORTEX LESIONS AND ANOMALIES IN DEMENTIA PRÆCOX, WITH SOME ACCOUNT OF THEIR FUNCTIONAL SIGNIFICANCE.*

By E. E. SOUTHARD, M. D.,

Pathologist to the State Board of Insanity, Massachusetts; Bullard Professor of Neuropathology, Harvard Medical School; Director of the Psychopathic Department of the Boston State Hospital.

(*From the Laboratories of the Danvers State Hospital and the Harvard Medical School.*)

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* Being contributions from the Massachusetts State Board of Insanity Number 25 (1914.5) and Danvers State Hospital Contributions Number 53. The substance of this contribution was presented at a meeting of the American Neurological Association held at the Triennial Congress of Physicians and Surgeons, Washington, D. C., May, 1913. (*Bibliographical Note.*—The previous S. B. I. Contribution Number 23 (1914.3) was by E. E. Southard and M. M. Canavan, entitled "The Significance of Bacteria Cultivated from the Human Cadaver: A Second Series of 100 Cases of Mental Disease with Blood and Cerebrospinal Fluid Cultures and Clinical and Histopathological Correlations," to be shortly published in Journal of Medical Research.)

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- Cruciate asymmetry.

I. Introduction.

I shall not here insist on the fundamental importance of deciding how far dementia præcox is a structural disease and how far functional. Nor shall I repeat what I have said before concerning the partisan attitude adopted by many workers in this controversial field.[1] A portion of the difficulty is beyond question due to the fact that, amid the cloud of witnesses, many speak who have no clear conception of what the terms structure and function mean.[2] But, brushing these writers aside, I am inclined to think that many persons who could offer a reasonable account of what they mean by the term function are treating the dementia præcox problem, not so much on its own merits, as on the supposed merits of some general conception of the nature of mental disease. Thus, if A believes that "*insanity is brain-disease*," B that "*insanity is disease of function*," C that "*insanity is faulty adaptation of the individual to the environment*," D that "*insanity is hereditary*," E that "*insanity is due to the operation of subconscious 'complexes,'*" the chances are against the preservation by A, B, C, D, or E of a non-partisan attitude to the particular problems of dementia præcox (to say nothing of prejudice to the entire problem of mental disease). So far as I can see, each of the propositions, A, B, C, D, E, and many others might be entirely true, and still consistent with the kind of contentions which I made in 1910 in my paper entitled, "A Study of the Dementia Præcox Group in the Light of Certain Cases Showing Anomalies or Sclerosis in Particular Brain Regions."

Nevertheless I assume that many readers will desire to know what particular form of prejudice I myself secretly entertain concerning mental disease! Without betraying myself to the uttermost depths and executing a veritable "catharsis" (*pace* Freud) of logical conceptions, let me state that for the most part I do not allow myself to admit entertaining any prejudice in this regard. Positive as were the findings in 1910, and harmonious as they were with the conceptions of Nissl, Alzheimer, and, more generally speaking, of Kraepelin, the findings came as a surprise to me, since my preconception had been, if anything, that the brain would be found essentially normal in dementia præcox, *i. e.*, an example of the concept of "*discords played on good instruments.*" As a result of actual investigation, however, it seemed probable that

dementia præcox brains, at least at autopsy, no longer looked like "good instruments," and I was forced to illustrate the concept of discords on good instruments from the field perhaps of manic-depressive insanity. This latter problem I am studying at present with methods similar to those adopted for dementia præcox in 1910.

But, granting the occurrence of lesions or anomalies in dementia præcox brains such as those described, I had to face the contention of Adolf Meyer[4] that the disease is possibly but "*incidentally organic.*" And, even if the disease is proved to be essentially—rather than incidentally—organic, the question was outstanding whether the described changes were instances of cerebral *agenesia* (as I understand August Hoch to maintain), or whether they are also instances of *acquired* lesion (*aplasia or hypoplasia,* rather than agenesia). This latter question I had specifically taken up in my paper of 1910, and I then found over half of my cases to show "congenital" features regarded as hypoplastic. The vast majority of the cases seemed to me to show evidences of "acquired" change.

In this state of the problem it seemed imperative to do more work of the sort initiated in 1910.

In 1910 I was able (a) to show that a vast majority of cases of dementia præcox is characterized by *coarse anomalies or scleroses in particular regions of the cerebral cortex.* I went on (b) to draw certain tentative conclusions as to structure and function which seemed to be borne out by those common clinical features, *e. g., paranoia* and *catatonia,* found in *cases having lesions predominant in the frontal and the parietal regions, respectively.* Now in 1914 I am able to substantiate the former claim and, on the basis of systematic brain photography, to carry out a more thorough convolutional analysis than has been hitherto attempted. It seems to me that I am thus able more safely to attack the moot question of *congenital versus acquired features* in the genesis of this disease or the diseases of this group. As to the latter claim (clinical correlations) I have been greatly aided by the appearance, in my *new series,* of cases showing anomalies or other *lesions of the temporal convolutions.* These new cases, for some reason only sparingly exemplified in the 1910 series, give rise to interesting speculations as to the part played by the *thought-speech-action* mechanism in dementia præcox.

The new series (1914) consists of 25 cases, 22 of which were not available in the 1910 series of 28 cases. Since three cases appear in both series (having now been systematically photographed and analyzed as to convolutions), the more general conclusions which can be drawn at this stage of the investigation relate to a total series of 50 cases. Of about 45 of these cases I believe we are entitled to say that their brains showed gross anomalies or other lesions of an important character.

Before rehearsing the nature of these appearances, a preliminary question must be answered. What is the *principle of selection* of these cases? Granting that dementia præcox is an entity or a group of entities, what title have these particular cases to the diagnosis? In the first place, I have given clinical histories, which, though condensed, are sufficient to permit the reader to make up his own mind as to the probable diagnosis. In the second place, I have guarded against too high a percentage of gross lesions by excluding a large number of (to my mind) perfectly good cases simply because they showed gross lesions not ordinarily thought to be related with dementia præcox phenomena. This process of exclusion was particularly resorted to in the 1910 series, when such features as *generalized brain atrophy* (five cases all of 11 or more years' duration), *cysts of softening, marked sclerosis of the vessels of the circle of Willis, diffuse chronic leptomeningitis* (11 cases) were regarded as complicating features that should not be considered in a first study of the anatomy of dementia præcox. From my present standpoint I am by no means so sure that generalized brain atrophy or even chronic diffuse leptomeningitis may not play a significant part in some cases or sets of cases in the total group. Accordingly in the 1914 series, when it was planned to publish the brain photographs themselves for the reader's judgment, not so much attention has been paid to excluding cases. In fact, the present collection represents a perfectly fair sample of dementia præcox cases as available in a large hospital for the insane (Danvers State Hospital), which has not only the features of a nursing asylum (in the European sense), but also the receiving function for a large and fairly representative district (Essex County, Massachusetts).

The series of cases is therefore a random non-selected series from which I have particularly prevented the more normal-looking

brains from being lost, inasmuch as normal-looking brains in the insane have been a special object of attention in my more recent work.

I therefore assume that, granting dementia præcox to be an entity, this series belongs both clinically and anatomically to a fair sample thereof; if not, the appropriate cases can be readily excluded. *If, however, dementia præcox is not an entity,* then I must fall back on the fact that in any event these cases are all cases of some sort of mental disease having pretty clearly (as a rule) adolescent or early adult onset. If we are not studying dementia præcox because it is non-existent, then at least we are studying mental disease. I have myself no suspicion that the *unity of insanity* will ever get much standing again in any important sense of the term *unity*. But, of course, fresh etiological work in the future will surely carve out new entities from some of our material. Our hope is to gain, by work on the processes of pathogenesis, ideas for prosecuting work in etiology. The most concrete suspicion which might attach to this material is the fear that some other current entity (*e. g.*, manic-depressive insanity) is masquerading in our series as dementia præcox. As to this I would say that the inclusion of such cases should theoretically serve only to lower our percentage of lesion-cases; also, that material has been collected and is being analyzed on similar lines for precisely the problem of manic-depressive insanity.

I do not need to describe more especially at this point the nature of the the lesions found in 1910, inasmuch as the present series will amply illustrate them. I will, however, here reproduce paragraphs 9 to 17 of the 1910 conclusions in order to show the status of the problem at that time.

9. Palpable glioses of a focal or variable character, combined in numerous instances with visible atrophy and microgyria have been found in over half the series under examination, in cases regarded as clinically above reproach and *not* subject to coarse wasting processes, focal encephalomalacia, cortical arteriosclerosis, or diffuse chronic pial changes.

10. The frequent co-existence of several foci of sclerosis or atrophy in the same brain, and the microscopic examination of milder degrees of nerve-cell disorder and gliosis in regions without gross lesions tend to the conception that the agent is more general and diffuse in its action than would seem at first sight, so that future research may well demonstrate that certain instances of coarse brain wasting, and even of diffuse chronic leptomeningitis, belong in the group (microscopic corroboration necessary for assigning values to focal variations).

11. The microscopic examination of the residue of cases in which gross lesions or anomalies were not described shows the same tendency to gliosis and satellitosis in numerous instances, and the same tendency to focal variations from gyrus to gyrus exhibited by the gross lesion group. These findings suggest that the minor gross lesions and anomalies of several cases actually escaped notice (the protocols, though drawn up with a certain system are by various hands) at autopsy, so that the probable actual proportions of gross lesions is 68 per cent. If microscopic evidence is resorted to, the "organic" proportion in our series rises to 86 per cent.

12. Several groups of cases were classified from the distribution of macroscopic lesions, although the focal purity of these cases can often be brought in question from the results of microscopic examination (infrastellate gliosis and satellitosis also in macroscopically "normal" areas).

I. Pre-Rolandic group, including a superior frontal-prefrontal sub-group of paranoidal trend (*cf.*, *e. g.*, case 1061).

II. Post-Rolandic group, including (a) postcentral-superior-parietal (sensory perceptual) sub-group in which katatonic features are the common factors (*cf.*, *e. g.*, case 1298); (b) occipital sub-group (*cf.*, case 1149).

III. Infra-sylvian group (too small for clinical correlations).

IV. Cerebellar group (katatonic features).

13. If these data find general confirmation they will doubtless go far to unify discussion, since mild, variable and progressive intracortical lesions, proceeding at different rates in different parts of the apparatus, and having the peculiar distributions indicated above, would explain adequately some of the contentions of the dissociationists, while remaining not wholly inconsistent with Kraepelinian ideas.

14. The frontal-paranoid correlation is in line with modern physiological ideas, but it must be granted that the occipital and temporal regions, as elaborating important long-distance impulses, may well play a part also in paranoid states.

15. The cerebellar-catatonic correlation is doubtless in line with some contentions of the Wernicke school, and obvious comments might be made in connection with the proprioceptive functions of the cerebellum (Sherrington).

16. The postcentral-superior-parietal relations to catatonic symptoms are perhaps theoretically the most novel suggestion from the work, but here again the results are not inconsistent with modern physiology.

17. The topographic study of dementia præcox brains, both gross and microscopic, is commended as likely to shed new light on the pathogenesis of certain symptoms, notably paranoidal and catatonic symptoms.

Since 1910, however, the problems of dementia præcox have shifted somewhat, and clearer views of the schism as to genesis which was then raging have now been rendered, more especially

by Bleuler and by Kraepelin himself. Let us first listen to the more recent conclusions of Kraepelin as to causes, especially those operating from without.

II. Some Recent Views of Dementia Præcox (Kraepelin, Bleuler, Meyer)

On account of the Kraepelinian view of dementia præcox as in some sense an organic disease, the new edition,* volume III, 1913, was eagerly looked forward to by all workers, and the more because the Kraepelinian view had been met by the careful and ingenious volume on Dementia Præcox or the Group of Schizophrenias (published in Aschaffenburg's Handbuch) by Bleuler, 1911.*

Among causes, Kraepelin considers age, sex, conditions of life, heredity, germ-plasm disease, idiosyncrasy, which need not especially concern us here. Among external causes ***mental strain*** (Kahlbaum, Deny and Roy) is first mentioned, only to be dismissed because abounding evidence of dementia præcox exists in persons and races not subject to such strain. Next, ***infections during development*** (Vigouroux and Naudascher, Bleuler) are considered, but the low percentage of initial infections (10-11% in Heidelberg material) and the difficulty of assuming a progressive effect wrought by such infectious agents as those of typhoid fever or scarlet fever (the most frequent initial infections) or the short streptococcus of Bruce militate against the infection hypothesis. Too great rarity holds also of the however not infrequent syphilis (Steiner and Pötzl), head injuries (Muralt), brain tumor, alcoholism.

Concerning these dismissed causes, I assume that Kraepelin would be the first to admit that their dismissal depends on admitting the diseased dementia præcox to be a unit. I find it hard to deny that, since everyone admits (Kraepelin also) that catatonic symptoms may be produced by *e. g.*, brain tumor, so also might the remains of small destructive cerebral hemorrhages in typhoid fever and in coccal subinfections after scarlet fever, to say nothing of properly situated luetic ravages be able to produce catatonic or even other symptoms of dementia præcox. Nor can our logic be entirely overwhelmed by the progressive nature of "true" dementia præcox, since on the one hand many cases of dementia

præcox are very slightly if at all progressive after the first attack, and on the other hand the reparative and compensating phenomena following critical infectious disease of brain or meninges are sometimes so slow as to be diagnosticated "active" for comparatively long periods.

Accordingly, in a particular case, I believe we should not lightly throw aside the infection hypothesis, even though the major portion of the dementia præcox group can hardly be explained as the result of any known kind of infectious agent.

Again, Kraepelin has little faith in prison conditions (confinement, food, limitation of movement, poor air and light, masturbation) as producers of dementia præcox. On the other hand, he believes that it was the dementia præcox which brought these persons to prison, and not *vice versa*. So also with *prostitution*.

Kraepelin has been far more impressed by *sex factors* as possible causes. The frequency of menstrual disorders in women and the unfavorable effect of menstruation upon the established disease, as well as the not infrequent onset in pregnancy, in the puerperium, or after abortion, serve to call attention to the sex factor in women.

In fact, the subjects of dementia præcox are very frequently *hypersexual* (purposeless masturbation, excesses, and ideas of sexual influences). Masturbation is so frequent and obstinate, especially in men, that the hebephrenic type of the disease has been sometimes known as insanity of masturbation. The disease also not infrequently sets in after the frustration of some plan of marriage. Suppression or faulty development of sexual activity (Tschisch), disturbances in the internal secretions of the sex-glands (Lomer), similarities between catatonic patients and thyroidectomized dogs (Blum), relationship with myotonia, myoclonia, tetany (Lundborg), veratrin-like reaction of muscles (Ajello), headaches reminding one of blood and metabolic disorder (Tomaschny), the occurrence of osteomalacia in dementia præcox (Barbo and Haberkandt), are mentioned by Kraepelin from the literature. Kraepelin thinks, too, that the sexual factors above mentioned, the thyroid symptoms sometimes seen, the tremendous variations in body weight, the occasional hypothermia, the epileptiform attacks, the occasional sudden deaths, all point to some poison circulating in the body. Dementia præcox would thus be a kind of autointoxication due to metabolic disorder.

According to Kraepelin, dementia præcox is more allied to epilepsy, diabetes, gout, chlorosis, than to manic-depressive insanity, hysteria, and psychopathic states.

If one should inquire what might be the source of this dementia præcox autotoxine, Kraepelin has at present no definite answer. Should one think of internal secretions brought out by emotion (like adrenalin, *e. g.*, in recent experimental work with emotion in lower animals), I judge that Kraepelin would not be inclined to entertain such an idea strongly. For, in his critique of Jung, who, he says, thinks that the emotion-laden Freudian complex acts like a trauma or an infection, Kraepelin remarks that, if emotion is to produce toxines, then manic-depressives should be especially prone to dementing intoxication!

Still, as I read recent literature on internal secretions, the intercurrent production of toxines or of toxic agents can hardly be excluded in dementia præcox. Kraepelin has himself accumulated so much (albeit scattering) evidence of sex-factors in dementia præcox that the internal secretory hypothesis can hardly be neglected. Whether such toxic agents are competent to produce dementia or whether their results are, as the logicians say, *reversible*, depends, it would seem, on the toxine.

Contrary to my own conclusions of 1910, and again to the conclusions of the present communication, Kraepelin sums up the status of *dementia præcox anatomy* by stating that there are no coarse brain changes, except now and then pial thickening or pial edema (the latter of agonal origin). As a matter of fact, coarse brain changes are not at all infrequently found even in routine examinations; and in published descriptions of dementia præcox autopsies such coarse changes are often mentioned, although not often emphasized.

The fact is that so much attention has latterly been paid to microscopic changes that the larger issue of the registration of serious destructive changes in the gross has fallen out of view. I cannot understand how pathologists can avoid seeing that the well-marked microscopic changes which they (following Alzheimer and Nissl) so frequently describe must in the nature of things be registered in the gross. Those, however, who are aware how rarely the conditions in neuropathological laboratories are in every way favorable for research (complete control of both head and trunk material

from autopsy table to stained section, opportunity for examination and especially for palpation of the fresh brain, photography of brains from the broadest anthropological viewpoints, ample histological material prepared by various methods with adequate technique, etc.) will not wonder that much has to be neglected in routine work.

But, though Kraepelin finds no reason to take account of gross brain changes, he does refer to numerous workers whose descriptions show *topical variations in the degree of the processes* seen (Mondio, Zalplachta, Agostini, DeBuck and Deroubaix, Dunton, Wada). From their work is concluded that the frontal and central regions, as well as the temporal, are more likely to suffer than the occipital regions.

Moreover, although quite unaware of the anatomical changes described by me in 1910, Kraepelin pushes his interpretation of the topical variations of *microscopic processes* just mentioned to a considerable length, and to some degree on similar lines to those I followed in 1910.

The marked involvement of the frontal region is correlated by Kraepelin with the clinical involvement of the higher intellectual functions as opposed to memory and acquired faculties, not clinically involved.

The fine disturbances which Kraepelin believes, from his analysis of the literature, characterize the *vicinity* of the precentral gyri are correlated by him with the disorders of will and of motility, even perhaps with finer asynergy of muscles. Of course my own analysis gives rise rather to the hypothesis that *post*-Rolandic disorder, presumably affecting kinaesthesia, is more often responsible for catatonia; yet, as in epilepsy, so in dementia præcox, disease approaching very near the projection system may now and then produce characteristic disorder of motility. Kraepelin admits that the absence of true paralyses and apraxia and the slight evidences of motor aphasia in dementia præcox somewhat militate against this *near*-precentral correlation with motor disorder.

In point of fact, the speech disturbances of dementia præcox are more of a sensory than a motor aphasic character. Accordingly Kraepelin correlates them, as well as the characteristic auditory hallucinations, with the temporal lobe disorder which his literary analysis has found to be frequent. The complex speech disorders

of dementia præcox are regarded by Kraepelin as due to a weakened influence of sound-images over the expressive movements of speech or perhaps to a loosening of connection between the sound-images and concepts of objects. Auditory hallucinations are regarded as irritative phenomena of temporal lobe origin, and Kraepelin calls attention to the fact that schizophasia (*Sprachverwirrtheit*) and the tendency to the formation of neologisms are always correlated clinically with auditory hallucinations. Hallucinatory repetitions of things said and *Gedankenlautwerden* are symptoms pointing to a similar disorder in relation of ideas to expression.

As to *cortex-histology* in dementia præcox, the Munich laboratory has latterly tended to reverse the earlier conclusions as to the stratigraphy of the changes. The permanent changes, *i. e.*, nerve cell losses, are now thought by Alzheimer (as reported by Kraepelin, 1913) to be rather confined to the second and third cortical layers. The earlier work, which had been confirmed by various observers, had emphasized the gliosis of deeper layers: this is now considered to be rather a phenomenon of the acute phases of the disease.

From the new data Kraepelin somewhat hesitantly draws certain conclusions which have much in common with older contentions of the Hughlings Jackson or Wernicke type. The clinical involvement of certain higher mental functions in dementia præcox—notably that the process of *abstraction*, which serves to transform perceptions to conceptions, lower to higher feelings, impulses to higher voluntary activity—is correlated by Kraepelin with the histological involvement of the *small nerve cell layers*. Little or no use is made in this connection of the topographical idea, except that the high development in man of the upper layers in the frontal region is mentioned.

In summary of Kraepelin's present stand upon this problem, it would seem that he assumes as proven (a) topographical variations in the degree of the (microscopic) lesions, with a tendency to more marked involvement of the frontal central and temporal regions, (b) stratigraphical differences in the permanent changes found in the cortex, with a tendency to greater involvement of the outer small-cell layers. On the basis of these findings Kraepelin suggests that the major symptoms of dementia præcox may be ex-

plained (automatism, negativism, stereotypy, mannerisms, will-disorders, neologisms, speech-disorder).

Such localizing considerations represent a considerable advance (or deviation) from the classical Wundtian contentions about mind and brain. They form the great novelty of the eighth edition of Kraepelin and betoken once more the fairmindedness, readiness for innovations, and inductive power of this great clinician. The critic must observe with astonishment the logical similarity between some of Kraepelin's recent contentions and the older ones of Wernicke and Hughlings Jackson.

BLEULER'S RECENT VIEWS OF DEMENTIA PRÆCOX

Bleuler sums up his elaborate essay in its preface by saying that he has applied the ideas of Freud, of Jung, and their co-workers to the conceptions of Kraepelin. Bleuler takes dementia præcox very broadly to include the majority of those mental diseases hitherto termed functional. Yet dementia præcox is not to be taken as a mere collection of symptoms (*Zustandsbild* or symptom complex or syndrome), and the Kraepelinian conception, to which Bleuler in general subscribes, is at the farthest possible removed from the standpoint of Wernicke, for whom "to-day's motility psychosis is to-morrow's paranoia," etc. When the symptom or symptom-complex has been clearly made out, the task of the symptomatologist begins: What is the relation of these symptoms to other symptoms and to anatomical findings? What is the course of disease showing these symptoms? What are their causes? Finally, what is the fundamental disorder to which they may be reduced?

Bleuler goes the whole way of saying: dementia præcox is a disease without transitions to others. All authors tend, he says, to call the schizophrenias either an intoxication or some other kind of thing introduced *de novo* into the body. In this respect Bleuler seeks to maintain the general resemblance of schizophrenia to general paresis. Probably dementia præcox contains several subordinate diseases, much in the sense that syphilitic paralysis may be said to contain the majority of what the older alienists called dementia paralytica. There may be a few rare processes of some other nature which can evoke the same symptoms.

It is not impossible, says Bleuler, that certain slight organic disturbances in the brain may produce symptom-complexes such as we

now ascribe to dementia præcox. So also intoxication, especially with alcohol, various kinds of autointoxication and of infection, may produce the schizophrenic picture. Dementia præcox is therefore not so much a species as a genus of diseases (*cf.* organic dementia, or perhaps general paresis). We are not yet able to compare dementia præcox with, *e. g.*, infectious nephritis; we can hardly go farther than to compare it with chronic Bright's disease. Yet within the schizophrenic group Bleuler can as yet find no signs of a natural subdivision into entities: there are merely certain *Zustandsbilder* within the disease (*e. g.*, hebephrenia, catatonia, paranoid form, etc.).

As schizophrenic, Bleuler counts, besides (1) those cases commonly regarded as *dementia præcox*, also (2) cases of Kraepelin's presenile *Beeinträchtigungswahn*, (3) those cases of *manic-depressive insanity* having *truly schizophrenic* symptoms (following Kraepelin's earlier rather than his later habit in this respect), (4) *infantile schizophrenia* (though stereotypies of idiots are *not* catatonic), (5) most cases of *melancholia and mania* as these terms are used in France and England, and even the *hallucinatory manias* and *hallucinatory melancholias* of various German authors, (6) the majority of cases of *amentia* and *hallucinatory paranoia*, (7) most cases of Ziehen's *ecnoia*, (8) almost all cases of Wernicke's *motility psychoses*, (9) *primary and secondary dementias*, (10) most incurable hypochondrias, (11) some cases of Kraepelin's *Erwartungsneurose*, (12) most *hysterical insanities*, (13) certain "*nervous*" patients given to refusal of food and ideas of jealousy, (14) a large portion (but not all) of *obsessive states, Grübelsucht, impulsivity*, (15) the majority of *juvenile psychoses*, (16) insanity of *masturbation*, (17) some of Morel's *dégénérés*, (18) some of Magnan's *dégénérés*, (19) some acquired brain-weaknesses and *constitutional* insanities, (20) many cases of *moral insanity*, Kahlbaum's heboid and parethosia, Wernicke's moral autopsychosis, (21) many *prison-psychoses*.

As to *genuine paranoia*, Bleuler regards the "mechanism" of delusion-formation as probably identical with that in schizophrenia. He has had to change his diagnosis from paranoia to schizophrenia, however, in very few cases, and all these cases of altered diagnosis had shown some schizophrenic symptoms from the beginning. He leaves the question open.

As to *paranoid alcoholics*, Bleuler states that there is no evidence for the existence of an alcoholic paranoia which is not schizophrenic.

So much for the scope of Bleuler's conception of schizophrenia —a much broader one and much more inclusive than might be thought suitable at first sight. When reproached with the remark that the conception is ***numerically*** too inclusive, Bleuler remarks that it is a question of fact ("there are more horses than elephants, more colds than typhoid fevers!").

As for the practical delimitation of schizophrenia from other diseases, following is a summary of Bleuler's position.

Dementia præcox, or as Bleuler states, schizophrenia, is a group of mental diseases which either run a chronic course or occur in attacks; may stop or improve at any stage, but perhaps never show restoration to absolute health. The symptoms of schizophrenia consist in an alteration of thinking and feeling and in a change of relations to the outer world. These changes are regarded by Bleuler as specific or almost specific.

In every case of schizophrenia there is a more or less distinct splitting of the mental functions. The personality of the pronounced case exhibits a loss of unity; sometimes one mental complex, sometimes another represents the personality. There is lacking all mutual correlation between the different complexes and purposes of the patient. The mental complexes do not flow together into the normal conglomerate, the impulses having unitary results, but now one complex dominates the personality and now other split-off groups of ideas and impulses dominates. Ideas are often only partially thought out, and fragments of ideas are erroneously put together to form a new idea. Concepts are therefore incomplete, lacking one or more essential components. Sometimes the ideas remain partial.

The process of ***association*** is determined by fragments of ideas and concepts. The resulting ideas are not merely incorrect but bizarre and unexpected. Association may stop in the midst of a thought or in progress of going over to another thought (thought blocking, *Sperrung*). Instead of a continuation of normal associative activity, new ideas come in which are incoherent with the previous train of thought.

The schizophrenic patient exhibits no *primary* disorder of perception, of orientation, of memory. Severe cases may show no emotional reactions whatever. Milder cases show that the strength of reaction to emotion is without proper relation to what the patient is experiencing. One ideational complex is responded to with intensity, another not at all.

The emotions may be qualitatively abnormal and without relation or proportion to intellectual disorder. Institutional cases are apt to show other symptoms, especially hallucinations and delusions, confusional states, dazed states, maniacal and melancholic variations in emotion, catatonic symptoms. All these are regarded by Bleuler as accessory symptoms and symptom complexes, though many of them show a specific schizophrenic character so that they aid in the diagnosis. Outside of institutions there are many schizophrenic cases in which these accessory syndromes are absent.

Bleuler describes as *sub-forms of dementia præcox*—

Paranoid.—Constantly in the foreground are hallucinations or delusional ideas or both.

Catatonic.—Constantly or for longer periods catatonic symptoms remain in the foreground.

Hebephrenic.—Accessory symptoms occur but without dominating the picture.

Simple schizophrenic.—Throughout the course of the disease only the specific fundamental symptoms are to be shown.

The fundamental symptoms of schizophrenia are a specific (schizophrenic) disorder of associations and of the emotional life (affectivity), a tendency to replace and to shut out with the patient's own imaginative experiences. Such replacement and exclusion of reality Bleuler terms autism (autismus).

Characteristic also is of course the absence of symptoms found in certain other diseases, viz., primary disorders of perception, of orientation, of memory and the like.

The ORGANIC psychoses show on the intellectual and emotional sides certain symptoms which do not belong to dementia præcox.

On the *intellectual* side dulness and slowness of perception; inability to think out complicated things completely; disorder of memory more marked for recent than for older events; disorientation for time, place and environment; disorder of attention, especially inability to pay extremely close attention.

On the *emotional* side. All the emotions are preserved to correspond qualitatively with the mental conditions. The emotions are superficial and fugitive, but not capable of giving permanent direction to the impulses.

EPILEPTIC conditions are distinguished from dementia præcox by symptoms upon the intellectual, emotional and motor sides.

On the *intellectual side*. Epileptic conditions show either no alteration of ideational capacity or a slowing and dulling thereof. Gradual limitation of the associations as in organic psychoses, but more distinctly egocentric; slowness and hesitation of thinking processes; persistence of thinking along the line begun; circumstantiality in speaking; tendency to a certain sort of perseveration. Later there occurs a disorder of memory, much more deficient than in the organic disease. The amnesia depends apparently on physical factors.

On the *emotional* side. All the emotions are correlated with the content of thoughts. The emotional state is persistent and not plastic. At a given time the emotions of the epileptic are unitary and exhibit no lack of correlation.

On the *motor* side. Singing, hesitating speech.

Schizophrenia and idiocy.—Idiocy begins in utero or early in life, is not progressive, shows emotional variety but along normal lines (no *Affekteinklemmung*), associations limited to the "intellectually adjacent."

Schizophrenia and paranoia.—The only "dementia" sign in paranoia is the attitude of the patient to his own delusions.

Schizophrenia and manic-depressive insanity.—The latter is characterized by a uniform elevation or depression of psychic tonus affecting all three major departments of the mind (*e. g.*, feelings: euphoria *versus* depression; intellect: flight of ideas *versus* inhibition of thinking; will: excessively busy attitude *versus* general motor inhibition). There is no true dementia in manic-depressive insanity, though it may be imitated by "emotional incontinence," depressive inhibition of thought, or by dementia due to intercurrence of brain atrophy. The existence of some of these factors in a case does not militate against the diagnosis schizophrenia; the existence of schizophrenia symptoms does militate against the diagnosis manic-depressive insanity.

Schizophrenia and hysteria.—Both are characterized by their explicability on psychogenic lines and by the dominance of emotions connected with certain ideas. Hysterical symptoms occur in schizophrenic and and do not militate against the diagnosis.

Of manic-depressive insanity, of hysteria, and perhaps of paranoia, we may say (according to Bleuler) that they exhibit only symptoms that may *also* be found in schizophrenia. All other mental diseases have specific symptoms which do not occur in schizophrenia.

Concerning the anatomy of dementia præcox, Meyer says in his paper on The Nature and Conception of Dementia Præcox, "The various lesions found in dementia præcox are not clearly understood and reduced to a definite intelligible mechanism, except they are essentially degenerative or simple reactive processes" (p. 8). Again, he disagrees with Alzheimer's conception of dementia præcox as an essentially organic disease and proposes rather to term it "an incidentally organic disease" (p. 9). Again, "the histological data are not unequivocal, but mainly of a character which might as well be merely *incidental* to the functional disorders" (p. 13). Again, "the condition undoubtedly goes in some cases with a decided breakdown of cerebral material, marking an acute delirium, or perhaps an acute stupor suggesting submental factors" (p. 14). But, "the available somatic facts in most cases are by far in favor of an endogenous break of compensation of anabolism and metabolism rather than in favor of a distinct exogenous disorder" (p. 15). As to the exact meaning of *incidental* in the above usage, Meyer suggests (p. 16) that work like that of Hodge and Crile on fatgue overstimulation, and shock, may show that the nerve-cell pictures are results of functional changes.

III. Material, With Statistical Analysis

Following are statistical tables in which certain general features of the new material are presented, following the plan adopted in my paper on dementia præcox of 1910:

TABLE I.

Classified by decades according to age at death, the material shows:

2	cases	dying	in	the	second	decade	(11-20)	1	male, 1	female.
2	"	"	"	"	third	"	(21-30)	0	" 2	"
5	"	"	"	"	fourth	"	(31-40)	1	" 4	"
4	"	"	"	"	fifth	"	(41-50)	1	" 3	"
7	"	"	"	"	sixth	"	(51-60)	3	" 4	"
4	"	"	"	"	seventh	"	(61-70)	1	" 3	"
1	"	"	"	"	eighth	"	(71-80)	0	" 1	"
25							(11-80)	7	" 18	"

TABLE II.

Classified by decades according to age at onset, the material shows:

1	case	with	congenital	features	(possibly	imbecile)		1	male, 0	female.
5	"	"	onset	in	second	decade	(11-20)	1	" 4	"
9	"	"	"	"	third	"	(21-30)	3	" 6	"
5	"	"	"	"	fourth	"	(31-40)	1	" 4	"
1	"	"	"	"	fifth	"	(41-50)	1	" 0	"
1	"	"	"	"	sixth	"	(51-60)	0	" 1	"
22								7	" 15	"

3 cases age at onset unknown.

TABLE III.

Classified by duration of symptoms in hemi-decade periods, the material shows:

4	cases	under	5	years	in	duration		0	male, 4	female.
4	"	between	6	and	10	years	in duration	1	" 3	"
2	"	"	11	"	15	"	" "	1	" 1	"
1	"	"	16	"	20	"	" "	1	" 0	"
3	"	"	21	"	25	"	" "	1	" 2	"
4	"	"	26	"	30	"	" "	0	" 4	"
1	"	"	31	"	35	"	" "	1	" 0	"
2	"	"	36	"	40	"	" "	2	" 0	"
1	"	"	41	"	45	"	" "	0	" 1	"
22								7	" 15	"

3 cases age at onset unknown.

TABLE IV.

SUPERFICIAL ANALYSIS OF CASES, KRAEPELIN, 1899.

Hebephrenic	4 cases,	1 male,	3 females.
Catatonic	10 "	3 "	7 "
Paranoid	11 "	3 "	8 "
	25	7	18

TABLE V.

BRAIN WEIGHTS BY DECADES IN WHICH DEATH OCCURRED.

Male	11-20, 1 case	1435	dementia præcox,	1376	normal (Boyd).
Female	11-20, 1 "	1270	" "	1276	" "
Female	21-30, 2 "	1148	" "	1239	" "
Male	31-40, 1 "	985	" "	1366	" "
Female	31-40, 4 "	1221	" "	1222	" "
Male	41-50, 1 "	1220	" "	1348	" "
Female	41-50, 3 "	1328	" "	1214	" "
Male	51-60, 3 "	1345	" "	1345	" "
Female	51-60, 4 "	1172	" "	1225	" "
Male	61-70, 1 "	1550	" "	1315	" "
Female	61-70, 3 "	1150	" "	1210	" "
Female	71-80, 1 "	1260	" "	1170	" "

TABLE VI.

CASES WITH DURATION UNDER 10 YEARS.

Male	1 case	1435	1357 normal (Vierordt).
Female	7 "	1197	1235 " "

CASES WITH DURATION 11-20 YEARS.

Male	2 cases	1238	1357 normal (Vierordt).
Female	1 "	1145	1235 " "

CASES WITH DURATION OVER 20 YEARS.

Male	4 cases	1329	1357 normal (Vierordt).
Female	7 "	1241	1235 " "

TABLE VII.

HEART WEIGHTS.

Male	6 cases	287	
	Minus 1 hypertrophy (575)		313 normal (Vierordt).
Female	16 cases	224	310 " "

TABLE VIII.

LIVER WEIGHTS.

Male.....7 cases	1536	1579 normal	(Vierordt).
Female..18 "	1070	1526 "	"

TABLE IX.

SPLEEN WEIGHTS.

Male.....7 cases	152		
Minus 1 case wt. 415	107	149 normal	(Vierordt).
Female..18 cases	101	180 "	"

TABLE X.

KIDNEY WEIGHTS.

Male.....7 cases	243	277 normal	(Vierordt).
Female..18 "	219	264 "	"

(To be Continued.)

THE PSYCHICAL MANIFESTATIONS OF DISEASE OF THE GLANDS OF INTERNAL SECRETION.

By E. MURRAY AUER,

Late Assistant Physician at Kalamazoo State Hospital.

Aware of the manifold physical phenomena resultant upon disturbance of the glands of internal secretion, scientific observers following along the same line are seeking to find in a similar disturbance the cause of some, if not all, of the varieties of the so-called affective psychoses. It is the opinion of Kraepelin [1] and Tanzi [2] that in maniacal and depressed states we have the expression of an action on the brain of certain modifications in the general body metabolism. Parhon [3] maintains that not only in Basedow's disease but also in the affective psychoses we have manifestations of disturbed thyroid function. According to the statistics of Garnier [4] we find 80 of 100 cases of depression occurring in women. No less interesting is the observation of Sainton,[5] who finds in 230 cases of Basedow's disease 204 women.

Considering the various and multiple manifestations ensuing upon the presence of the treponema pallida in the human body, is it not as possible that pathological changes, qualitative or quantitative, in a secretion so essential to and exerting such tremendous influence on the body metabolism may be equally as productive of a variety of phenomena? I am not endeavoring to point out any similarity in the two causative factors, but if the one is capable of producing such a multiplicity of symptoms why is not the other? The assertion is immediately made that in syphilis we have the findings of the primary, secondary and tertiary stages; that in general paresis, cerebral syphilis, tabes, and in the rarer manifestations, primary optic atrophy, progressive muscular atrophy, and primary lateral sclerosis there are demonstrable pathological changes in the cerebrospinal axis. In reply I say, in the latter case we are dealing not only with a toxin but also with an extremely active organism and ask who will deny the causative factors in the psychoses resulting from severe infection or the use of morphine, cocaine and alcohol; and yet what pronounced demonstrable pathological changes have as yet been found in the central nervous system?

Of the symptomatology in diseases of the gland of internal secretion the physical phenomena are too well known to require detail. Of the psychical manifestations we find in the athyrea of children (cretinism) retarded mental development evinced in the various grades of idiocy and imbecility. In athyrea of adults (myxœdema) we have pronounced retardation of mental and physical activity, defective memory, difficult apprehension, inability of application, irritability, indifference, stubbornness, periods of excitement and in some cases confusion, delusions, hallucinations, and dementia. In hyperthyrea are mental conditions ranging from extreme nervousness, irritability, and depression to acute mania. I note the two following cases:

CASE I.—Anestina S., admitted in 1900 at the age of 48. The physical symptoms were those of Basedow's disease. In the mental examination were enumerated hallucinations, delusions, and alternate periods of elation and depression. Present examination shows a pronounced Basedow's disease and examination of the patient's mentality reveals dulling of comprehension, irritability, limited ideation, marked mental deterioration, and no insight.

CASE II.—Della B., age 42. Father was a heavy drinker and user of opium. The patient has all the physical symptoms of a pronounced Basedow's disease. She has a worn, anxious expression; is disoriented; her memory is impaired, and she has auditory and visual hallucinations to which she reacts freely. She has delusions of persecution, illusions of identity, flight of ideas, distractibility, rhyming, pressure of activity, and is emotional, elated, restless, and apprehensive.

In pituitary disturbances overlooking the various physical syndromes, there are usually present marked mental symptoms. In the recent report of Cushing * we find in Case I, epilepsy at one year of age, and at seven years of age manifestations of pituitary disturbances of which the mental phenomena were a change of disposition shown in irritability and stubbornness. Interesting also is the checking of the epileptic seizures upon administration of the glandular extract. Case III, bright and intelligent boy who at the age of eight showed evidence of pituitary disorder and various physical and mental symptoms. Of the latter he mentions, "memory poor, feeble powers of initiation and concentration, inattention, irritable, and morose," responses slow and disconnected and a "peculiar mania for writing inconsequential letters to people." In a case observed by me, of Luella B., we find her stupid as a child with onset of pituitary disturbance

at 12 years of age. Present examination we find typical skeletal configuration, adiposity, and increased tolerance to levulose. In the mental examination, according to the Binet scale the child showed the intelligence of one of seven years of age, is disoriented, memory is impaired and her replies are frequently incoherent. She has hallucinations of sight and hearing; delusions, is indolent, untidy and inactive; has occasional spells of depression but more frequently disturbed periods when she is elated, noisy, irritable, destructive, and violent. Since her confinement here she has had three severe epileptiform seizures and it is stated that previous to her admission she had one at the age of two and another at the age of seven years.

In none of the above cases were there any definite disturbances in the neighborhood of the pineal gland and the radiogram showed nothing abnormal. I dwell especially on these three cases since they differ essentially in the accepted syndrome of Frohlich in the absence of any hypophyseal tumor with enlargement of the sella.

Dr. Geo. Dock enumerates in his article, "The Pituitary Body, Acromegaly and Progeria," the following mental symptoms: "Loss of memory, slowness of mental processes, and depression or delusions are frequent. Bursts of anger are likely to occur with suicidal or homicidal tendencies, and epilepsy."

The effects of extirpation of the sexual gland upon the entire organism is still undetermined. It is assumed by some that the trophic influences exerted upon the body metabolism by the sexual gland through the nervous system is lost. If boys are castrated the body loses its masculine characteristics. The body remains diminutive and the mental processes are lacking in strength and character. In the adult male there are no noteworthy demonstrable changes after castration.

If the ovaries are removed in a girl before puberty the secondary sexual characteristics are usually absent. After puberty menstruation usually ceases at once but rarely only after some time. Morbacher and Meyer[1] from observation of a series of clinical investigations express the opinion with regard to occurrence of post-operative disturbances of oophorectomy of a more psychic nature such as depression, anxiety, and irritability, that patients complaining of these admitted the presence of "nervousness"

before hand, entirely new symptoms occurring in only very occasional instances.

Of physical phenomena occurring in diseases of the adrenal gland are hemicephalus and other failure of development of the brain. Hanseman describes eight cases of anencephaly with atrophy of the adrenal. Czerny reports five cases of hydrocephalus in absence of the medulla of the adrenal glands. In Addison's disease we find disturbance of memory, varying degrees of imbecility, depression, and dementia. Among the rarer manifestations are choreiform and epileptiform convulsions.

The thymus gland is classed among the glands of internal secretion and the condition of "lymphatic constitution" has been ascribed to a disturbance or loss of function. It is noteworthy that in acromegaly, Addison's disease, and Basedow's disease, a persistent or enlarged thymus is frequently observed.

That the glands of internal secretion act not independently but in close relationship is shown by many brilliant observations. Pansini and Beuenati report a case of tuberculosis of both adrenals in which the patient showed symptoms of Addison's disease, enlargement of the once atrophied thymus and hypertrophy of the thyroid, pituitary and spleen.

The relations between the adrenals and the various other ductless glands is well shown by Marchand's case of feminine hermaphroditism with atrophy of the ovaries and testes. Again Linser's celebrated case in which a boy five-and-a-half-years with hypernephroma appeared as one of 16 years of age. The frequency of pigmentation observed in Basedow's disease suggests a relation of the adrenals to the thyroid, and again the resemblance in structure of the hypophysis cerebri and the adrenals and the occurrence of chromaffin tissue in both are suggestive of close relationship. Sheffield[8] reports a case of congenital myxœdema and cystic goiter with feeble mentality. Marck[9] reports a case of pregnancy complicated by acromegaly, in which the patient in the eighth month of pregnancy developed typical symptoms of acromegaly, enlargement of the thyroid and later became depressed, the delivered child presenting some of the symptoms of the mother. That the function of the thyroid gland is related to that of the genital glands is shown by the commonly observed enlargement of the former occurring at the menstrual period and during pregnancy. The association of exophthalmic goiter to pregnancy is shown in any

number of cases in recent literature. Kron [10] reports two cases of exophthalmic goiter aggravated during pregnancy and improving after labor. Goodale and Conn [11] in a very interesting paper conclude that the thyroid and the ovaries mutually influence functional activity; that ovarian hyperactivity is a frequent cause of the development of exophthalmic goiter. A. di Castro [12] has reported a case showing combined disturbance of the thyroid, pituitary, and genital glands. Sweet and Allen [13] find atrophy of the testes resultant upon hypophysectomy. Carlo Foa [14] maintains that the pineal gland exerts an inhibitory action direct or indirect on the development of the testes. Lanz observes that the extirpation of the thyroid in hens causes a diminution in size of the egg and that feeding with thyroid causes them to increase in size.

In conclusion I wish to state: (1) that in the etiology of the affective psychoses we are evidently dealing with a biologic disturbance. (2) That the glands of internal secretion physiologically act not as independent units but on the contrary mutually influence functional activity. (3) That the occurrence of insanity at puberty and adolescence after severe physical and mental strain and at the time of menopause, all periods when the metabolic changes of the body are intense, and the occurrence in syndromes unquestionably the result of disease of the glands of internal secretion of idiocy, imbecility, depression, mania and dementia suggest strongly that the true etiology of the affective psychoses lies in a functional disturbance of the glands of internal secretion.

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Notes and Comment.

REPORT OF THE COMMITTEE ON THE STATUS OF BRITISH PSYCHIATRY.—In November, 1911, the Medico-Psychological Association of Great Britain and Ireland appointed a committee to consider the "Status of Psychiatry as a profession in Great Britain and Ireland and the reforms necessary in the education and conditions of service of Assistant Medical Officers." This committee made an interim report at the annual session of the association in 1913, and at the annual session of the association this year presented a full report.

The defects set forth in the report made last year were:

1. Absence of proper provision for the early treatment of incipient and undeveloped cases of mental disorder.
2. Few facilities for the study of psychiatry and for research.
3. The unsatisfactory position of assistant medical officers in respect of professional status, the prospects of a career, and the conditions of asylum service.

The committee has evidently devoted close study to the subject, and its report is full, and if the recommendations made are put into force British psychiatric practice will be placed upon a much higher plane than it now occupies. English conservatism has stood in the way of the acceptance of much of the continental teaching in psychiatry which has been accepted on this side the ocean without question and in too many instances without examination. In some respects this has been to the advantage of our British cousins as they have been saved the necessity of laying aside much which we too readily adopted, only to find that in our eagerness to exchange old lamps for new we neglected to ascertain whether the new lamps really gave light.

Nevertheless there has been a growing spirit of unrest among English psychiatric workers and a feeling that they were neglecting to take advantage of the work of continental investigators, and to keep pace with advanced methods of hospital work and teaching.

The golden mean between American avidity to try something new and British disinclination to depart from established methods, is to be desired, but difficult to attain.

In referring to the interim report made in 1913 the *British Medical Journal* said:

> A more severe indictment of the existing system than is contained in this report it would be difficult to frame for its concluding words are that the existing system "leads to the stunting of ambition and a gradual loss of interest in scientific medicine, and it tends to produce a deteriorating effect upon those who remain long in the service."

The present report presents the defects set forth in 1913 and in parallel columns the suggested remedies.

Our space does not permit a reproduction of these "defects" and their suggested remedies. The former, however, may in a measure be inferred from a brief synopsis of the recommendations. These are:

The establishment of clinics for mental diseases in connection with universities, medical schools and general hospitals, equipped for research work in, and for the treatment of, mental disorders, available as places for undergraduate and post-graduate study. Patients are to be received on a voluntary basis into these clinics, and provision is also recommended for the reception of voluntary patients in the large public asylums.

Post-graduate work is to be encouraged among medical officers of institutions for the insane and for this purpose suitable leave of absence is to be granted medical officers for study at recognized clinics.

It is recommended that all medical officers entering asylum service be appointed for a probationary period of two years and do not become established medical officers until they have passed an examination in Psychiatry, Lunacy Law and Hospital Administration. At the same time, the committee feels that larger use should be made of the power asylum committees now possess of retiring unsatisfactory medical officers.

Recommendations are made to improve the social condition of the medical officers by permitting marriage after five years of service, better remuneration in some cases, and for certain officers, quarters removed from the institution.

Routine work is deprecated and better opportunities for junior

medical officers for work with the senior medical officers, for consultation and conference and, in short, for real clinical work as distinguished from mere routine attention to petty details is recommended.

A paper on Clinics and Centers of Teaching, by Dr. R. G. Rows, is made part of the report. This paper deals largely with the work of German psychiatric clinics. It is to be hoped that this report will attract the attention of those in authority with the result that its recommendations are carried into effect. In the meantime, in each institution, much can be accomplished toward awakening the hospital spirit in assistant physicians and breaking down the depressing routinism which the report so strongly deprecates.

Newspaper Sensationalism and Hospitals for the Insane. —A writer under the caption of "The Observer," in making "personal and pertinent comments upon current events," in a Baltimore daily paper, in animadverting upon the action of the warden of a penitentiary who proposed to try the elevating effects of flowers and music upon the prisoners, takes occasion, without, as is clearly shown, knowing anything about the matter, to include in what he calls "reforming sentimentalism," the attempts which are made in every hospital for mental cases to place patients in as nearly normal conditions as possible, to brighten their surroundings, remove appearances of restraint, encourage occupation, amusement and all the amenities of social existence.

He quotes from a sensational dispatch from Chicago the account of a dinner in one of the Illinois state hospitals given a group of turbulent patients which he calls a "new method of treatment" which "also belongs to the new reform madness." He says: "The superintendent of the hospital thought that he would effect at least a partial cure of the insane by giving a banquet to which the maniacs as well as the public were invited," and concludes, "and this is what happened according to a dispatch from Chicago: 'As soon as the dinner's first course was put on the table a docile madman arose and smashed a plate of soup on his neighbor's head. It required five keepers 10 minutes to suppress the riot that followed. With course No. 2 a diner picked up a heavy glass mug and brought it down on the head of the patient next to him. He had a platter uplifted for a second crushing blow, when attendants pinioned his arms to his sides. He was carried back to the cottage.

The victim of the assault was taken to the hospital. The normal guests by that time had lost their appetites. Eyes glared at them with a hatred that caused cold shivers. With course No. 3 a patient, who was reading a newspaper upside down, aroused the anger of a neighbor and was struck on the jaw and knocked in a heap.' But we must not be hasty in our judgment. Let us hear what the warden of a penitentiary has to say who has sent his thugs and murderers to grand opera."

Now what really happened was nothing at all resembling the lurid account of the affair.

Some patients of the chronic and excited class at the hospital in question were given a picnic on the lawn. Tables were set under the trees and they were invited to enjoy the opportunity of increased liberty and a dinner somewhat differently served from the ordinary meals.

We are informed by one of the medical officers of the hospital, who was in Baltimore a day or two after the dispatch was published, that there was no violence or excitement. One of the patients who had a delusion concerning one of the medical officers became abusive, was led to one side but subsequently came back to the table and remained there quietly smoking an after-dinner cigar with evident enjoyment.

No assaults were made, no struggles occurred and the eyes that "glared with hatred" were wholly in the imagination of the reporter.

We do not understand that this event, a simple incident in the every-day life of the hospital, and in the efforts to make patients' lives more tolerable and find some possible avenue through which their interest may be aroused and more normal methods of thought and action induced, was looked upon as a "new method of treatment," nor does it belong to any "reform" propaganda.

We are not at all uncertain that flowers and music and diversion and a reasonable reduction of restraining and mere punitive measures would not have its humanizing influence upon penitentiary prisoners, nor do we believe for a moment that the warden of the Kentucky prison proposes to send his prisoners to grand opera. These things are, however, beside the matter we have in mind.

We would like to ask why newspaper reporters find it necessary to make a sensational story whenever they write about affairs con-

nected with a hospital for the insane. Why must they write of "madmen" and "maniacs" and "glaring eyes."

Not long since a very graphic account of a fire in the laundry of a well-known hospital, told of the excitement among the patients, of the "shrieks" and "howls," and that the police of the city and nurses from a neighboring hospital were called in to help remove the patients from places of danger.

The laundry was a detached building; none of the patients knew of the fire, except a few men who were out walking in the grounds and who, rather than showing any excitement, helped drag the hose. No assistance was asked or received and no patients were at any time in danger or showed any excitement.

What "The Observer" calls the "new reform madness" as far as it applies to the care of the insane was inaugurated over a hundred years ago by Pinel in France and Tuke in England. There were some then who called the men mad who wished to take off the chains from sick folks, called insane, and let light and fresh air into their rooms. Indeed tradition tells us that Pinel was plainly told that should his experiment fail and harm result therefrom, his head would pay the penalty.

Such sensational stories as the one we have quoted together with the ill-advised and ill-informed comments of "The Observer," do much harm. They foster in the minds of the people those erroneous ideas of hospitals for the insane and the treatment of mental maladies which are all too common. "The Observer" should visit some modern hospital conducted after modern methods with bright surroundings, facilities for amusement, recreation and occupation, together with all the methods of modern science for treatment and he will, we feel confident, cease to class an every-day incident, the like of which is occurring constantly all over the land in the form of picnics, garden parties, lawn fêtes, athletic meetings, and in inclement weather card parties, concerts, moving picture shows, lectures, etc., as belonging to the "new reform madness." He will realize that giving further publicity, with uninformed criticism of efforts to improve the condition of the insane, to such sensational and untruthful reports as we have quoted, will do much to keep patients from seeking prompt care in hospitals, and add to the anxiety of the friends and relatives of patients under care by giving them a very erroneous idea of the conditions which obtain in such institutions.

Book Reviews.

The Unconscious. The Fundamentals of Human Personality, Normal and Abnormal. By MORTON PRINCE, M. D., LL. D. (*New York: The Macmillan Company, 1914.*)

To quote from the preface, "This work is designed to be an introduction to abnormal psychology. The problems considered, however, belong equally to normal psychology in that they are problems of psycho-physiological functions and mechanisms." This may be said to give, in a word, the plan of the book. It consists of lectures which have been delivered to the students at Tufts College Medical School, and at the University of California. New material has been added as accumulated and there are sixteen lectures in all. As may be imagined, having originally been written for students, Dr. Prince has been careful to elucidate his points in a painstaking way and, by examples, attempts to make them still more clear. Occasionally the impression is given that fewer examples, while less convincing, might make somewhat easier reading. Unnecessary proof seems at times to be given to rather obvious facts. If this be a fault of the book it is the only one, and with so much excellence is not to be considered. In the chapter entitled Summary and General Conclusions, Dr. Prince states that while the study is incomplete, "We have at least examined the chief of its fundamentals [factors of personality], more particularly those which are concerned in the disturbances which general psychopathology makes the object of study. Such a study should be undertaken preparatory to that of special pathology or particular complexes of disturbances of function (the functional psychoneuroses). The aim of psychology should be to become capable of being an applied science. So far as a science is only of academic interest it fails to be of real value to the world." Dr. Prince is to be congratulated in having done so much to achieve this ideal.

W. R. D.

Psychopathology of Every-day Life. By PROFESSOR DR. SIGMUND FREUD, LL. D. Authorized English Edition with Introduction. By H. H. BRILL, Ph. B., M. D., etc. (*New York: The Macmillan Company, 1914.*)

We are told in the introduction that while studying the so-called borderline case of mental diseases, such as hysteria and compulsion neuroses, Professor Freud developed his system. Psychanalysis always showed that the hitherto puzzling symptoms always referred to some definite problem or conflict in the person concerned.

While developing his system Freud found how faint the line of demarcation was between the normal and the neurotic person, and that the psychopathologic mechanisms so glaringly observed in the psychoneuroses and psychoses could usually be demonstrated in a lesser degree in normal persons.

A study of the faulty actions of every-day life followed and later the publication of the Psychopathology of Every-day Life from the fourth edition of which this translation is made by Dr. Brill.

There are twelve chapters in the book with the following headings: Forgetting of Names, Forgetting of Foreign Words, Forgetting of Names and Order of Words, Childhood and Concealing Memories, Mistakes in Speech, Mistakes in Reading and Writing, Forgetting of Impressions and Resolutions, Erroneously Carried-out Actions, Symptomatic and Chance Actions, Errors, Combined Faulty Acts, Determinism, Chance, and Superstitious Beliefs.

This work we are informed in the introduction is considered the author's most popular production. By the disciples of Freud it has been considered a valuable and timely contribution to the literature of psychopathology and psychanalysis; by those who do not accept the teachings of the Freudian school and who see it now for the first time, it will be received as another evidence of the remarkable tendency of the practitioners of psychanalysis to interpret all the phenomena of life according to their peculiar views.

We do not doubt, indeed we know of no one who does, that mental complexes whether repressed consciously or not, modify mental processes and in various ways interfere with the orderly processes of every-day life. The man, for example, whose mind is burdened by worries, whether or not he is conscious of their real presence, does not do as good mental work, cannot as well control his mental operations as he whose mind is free from care and who enters upon his task untrammeled by extraneous matters.

We doubt, however, whether the explanation of forgetting names, of using wrong words, of misplacing things, given by the author will find ready acceptance.

How comfortable would a smoker feel, for example, who suspected that he might be smoking too much, if he found, as is claimed by one of Freud's most ardent disciples, that he "was in the habit of mislaying his pipe whenever he suffered from the effects of over-smoking," could he satisfy himself that this mislaying was the result of some unconscious complex rather than a forgetting due to the toxic effect of the tobacco used in excess.

How uncomfortable for a physician who by mistake used the wrong drug from his medicine case in giving a hypodermic, to realize that this mistake was due not to haste, to fatigue or preoccupation of a normal kind, but was determined "by an old resentment, and unconscious hostility" toward his patient, as is gravely asserted with an illustrative example on page 197.

Of the common experience of meeting a person on the street who turns in the same direction in attempting to pass and steps back and forth in unison with the opposite person, thus barring the way, the author says

that he has occasionally had to admit to himself, that this "'barring one's way' repeats an ill-mannered, provoking conduct of earlier times and conceals erotic purposes under the mask of awkwardness."

Every one who has driven through a crowded street has seen pedestrians do exactly the same, first stepping from the curb as if to pass in front of the moving vehicle, then back again, and then again pressing forward as if to carry out the intention to pass. What repressed complex is here to be determined?

The book is a most interesting one and we have read it with pleasure and entertainment, however much we may differ from the to us far-fetched and strained explanations of some of the most common incidents and accidents of every-day life.

If, in describing it as one of the author's most popular works, it is meant that it is in circulation among lay readers, we can but express the hope that this will not be the fact in this country. Such a book in the hand of susceptible persons would provide a rich field for future investigation by psychoanalysts.

Mental Diseases. A Text-Book of Psychiatry for Medical Students and Practitioners. By R. H. Cole, M. D. (Lond.), M. R. C. P., etc. (*London: University of London Press. Published for the University of London Press by Hodder & Stoughton, Warwick Square E. C., 1913.*)

The author has endeavored to present the salient features of our present knowledge of psychiatry in as concise a manner as possible. He has succeeded in producing a manual of the subject which will be of much use to students and practitioners and particularly so if they can, as intimated by the author, supplement their reading by practical demonstrations in the clinic.

The opening chapter on the Incidence and History of Insanity is an interesting one. The question of the alleged increase of insanity is discussed wholly from a British standpoint. The figures given appear to show an increase out of proportion to the increase in population. A brief sketch of the history of the treatment of insanity is given and naturally reference is made to Bethlehem Hospital.

Chapter II upon Mind, Consciousness, Sleep and Memory; and Chapters III, IV and V upon Sensation, Perception and Ideation; Feeling, Emotion and Sentiment; Instinct, Volition and Attention serve to bring to the student who has already had training in psychology a knowledge of these matters as applied to the study of psychiatry and the diagnosis of insanity.

Following chapters upon Diagnosis of Insanity, General Causation and Classification, are the chapters which treat of specific forms or groups of the psychoses. These sections treat of Maniacal-Depressive Insanity, Confusional Insanity, Paranoia, Amentia (Idiocy and Imbecility, Congenital Feeble-mindedness, Moral Degeneracy), Dementia, General Paralysis (Dementia Paralytica), Alcohol and Insanity, Childbirth and Insanity, Epilepsy and Insanity, Hysteria, Neurasthenia and Psychasthenia and General Dis-

eases and Insanity. Then follow chapters on Pathology, The Elements of Prognosis, The Legal Relations of Insanity, and General Treatment. While the writer has more distinctly followed the German school than have some recent English authors, he has not wholly committed himself to any one teacher.

He clearly has faith in psychanalysis in suitable cases, but warns the reader of its dangers in others.

In the treatment of paresis he intimates that some good may ultimately follow the use of salvarsan, but apparently had not learned of the Swift-Ellis method.

The book is one which students and general practitioners may read with profit, and which should find a useful place in the library of hospitals for mental cases.

Half-Yearly Summary.

ALABAMA.—A committee has been appointed consisting of Dr. Charles M. Rudulph, Dr. James S. McLester and Dr. Arthur L. Toole, all of Birmingham, to investigate the number of mental defectives and report to the legislature a plan for their care. It is probable that an appropriation will be asked for the construction of an institution in charge of, and to be supported by, the state.

CALIFORNIA.—*Los Angeles County Hospital, Los Angeles.*—The psychopathic building which was recently completed at a cost of $175,000, was formally opened August 3. It will accommodate 100 patients.

—*Mendocino State Hospital, Talmage.*—There have been very satisfactory results from a mission cloister built in the men's rear parole ground, so that the gloomy effect of the wall is removed. It is 12 feet wide, has a mission tiled roof, and a supporting base and pillars. It seems to offer a satisfactory solution of the frequently gloomy appearance of such places.

There are being completed new male and female tubercular cottages, as well as a farm cottage with a capacity of 50 patients, to care for the workers on the farm, and convalescent patients.

The occupational work is maintaining itself with the method of dividing the proceeds of the sale of articles not used in the hospital into three portions: one, cost of material; two, the patient; and three, the amusement fund. In this way, beginning with no funds, on June 30 there was $127 in the amusement fund. The benefit to patients has been most noticeable, and it is constantly discovered that additional patients can be utilized.

CONNECTICUT.—*State Colony for Epileptics, Mansfield.*—The colony was opened for the reception of patients May 15, there being accommodation for 80. It is situated on a tract of 500 acres on the summit of a slope overlooking the Willimantic River.

ILLINOIS.—*State Epileptic Colony, Dixon.*—The legislature having appropriated $500,000 for the establishment of this colony, 1054 acres of land near Dixon were purchased on June 30. A topographical survey was made and it is expected that before winter there will be 60 one-story cottages under roof. These will surround the administration building, 20 being on the north, 20 on the south, 10 on the east and 10 on the west.

—*Cook County Psychopathic Hospital.*—This institution which replaces the old Detention Hospital was opened June 26. It will accommodate 300 patients and cost $470,000.

—*Elgin State Hospital, Elgin.*—A consulting staff has been appointed for this hospital consisting of the following: Internal Medicine, Dr. John F. Bell; Pathology and Bacteriology, Dr. Samuel L. Gabby; Gynecology, Dr. Frederick C. Schurmeier; Eye, Ear, Nose and Throat, Dr. John R. Tobin; Dermatology, Dr. Edward H. Abbott.

INDIANA.—*Northern Hospital for the Insane, Longcliff, Logansport.*—There are in process of construction a modern dairy barn to accommodate 72 cattle, a new kitchen, and congregate dining-rooms for men and women, each dining-room to accommodate 400 patients.

IOWA.—*Cherokee State Hospital, Cherokee.*—There has been an unusual as well as disappointing delay in moving into the new building for tuberculous patients. This has altogether been due to the delay in the delivery of furniture, but it was expected that this building would be open before October 1. The hospital year closing July 1, 1914, has been one of the banner years in the history of the institution, all things considered. In addition to the regular staff meetings held daily between 7 and 8 p. m., the regular Wednesday "Clinic Day" has been inaugurated. On March 1 next, Dr. Voldeng will take charge of the recently established State Hospital and Colony for Epileptics, located at Woodward, this state. Active building operations in connection with the new institution will be inaugurated early next spring. Plans for buildings, etc., are now being prepared by the state architects, under the supervision of the Board of Control and Dr. Voldeng.

KANSAS.—*Topeka State Hospital, Topeka.*—During the year past the activities of the hospital have to a considerable extent been devoted to the building and equipment of a modern dairy barn, which is described in the recent Biennial Report: "The barn has a capacity for 120 cows, together with silos of 350 tons capacity, also milk treating, a bottling room, feed bins, and all the accessories that belong to a modern dairy plant. It is equipped with steam heat, hot and cold water, electric power and light, bath, etc. The building is of reinforced concrete construction with tile roof, and is fireproof throughout. The patients have done the major part of the construction under the supervision of two foremen. The quality of the construction is high grade in every detail. It is impossible to estimate the total saving in the cost, but in view of the fact that labor is the important item of expense in concrete construction the saving has certainly been very considerable. The total expenditure on this valuable addition to the hospital's equipment including stalls, heating, lighting, plumbing, milk sterilizing machinery, etc., has been approximately $20,000. Supplemental to the dairy barn there is being constructed a combination hay barn and open shed for the cows. This is being built near the dairy barn proper, and is an adjunct to the improved plant. It will be possible to have the herd much in the open air, a condition that will contribute largely to the health of the cows. This building will also be of reinforced concrete and steel construction and will be fireproof in all its features."

The medical work of the hospital has been uneventful. There have been no changes in the medical service during the past two years.

The completion and equipment of the Reception Hospital two years ago has proven an invaluable accessory to the hospital work, especially has hydrotherapy been a source of much satisfaction and comfort.

KENTUCKY.—*Eastern State Hospital, Lexington.*—The State Board of Control has decided to erect a building to accommodate the tuberculous insane at an estimated cost of $300,000.

—*Western State Hospital, Hopkinsville.*—A congregate dining-hall will be constructed at a cost of $30,000. The 25 dining-rooms which it will replace will be turned into dormitories and will give accommodation for about 200 more patients. This will relieve the crowded condition of the hospital.

MARYLAND.—At the last session of the legislature a bond issue of $418,000 was authorized for the erection of new buildings at the following state institutions: Springfield State Hospital, Spring Grove State Hospital, Crownsville State Hospital, Eastern Shore State Hospital, Rosewood Training School. A special appropriation of $2500 a year was made to the Lunacy Commission for the purpose of prevention and after care in conjunction with the Mental Hygiene Committee of the Maryland Psychiatric Society.

The conference of mental hygiene workers, of which mention was made in the last *Summary*, was successfully held in Baltimore on May 25, the day preceding the meeting of the Medico-Psychological Association. It was very well attended and held two sessions, afternoon and evening. The afternoon session was opened with an address by Dr. Stewart Paton, of the National Committee, after which informal reports were made by representatives from Massachusetts, New York, Illinois, New Jersey, Connecticut, Pennsylvania and North Carolina. Dr. L. F. Barker, President of the National Committee, presided at the evening session and made the opening address. He was followed by Dr. Wm. H. Welch, who spoke on "Some Opportunities for the National Committee for Mental Hygiene." Hon. George P. MacLean, U. S. Senator from Connecticut, who was to have spoken on "The Conservation of Mental Health—A National Problem," was unable to be present but his address was read by Dr. C. MacFie Campbell. We understand that the National Committee is publishing the proceedings of this first convention of mental hygiene societies.

—*Springfield State Hospital, Sykesville.*—The cornerstone of the John Hubner Psychiatric Hospital for acute cases was laid June 25, under the auspices of the Maryland Psychiatric Society. Dr. William A. White, Superintendent of the Government Hospital at Washington, delivered the dedicatory address, his title being "The New Ideal." The building is named in honor of the President of the Board of Managers.

—*Sheppard and Enoch Pratt Hospital, Towson.*—The hospital baseball team has had a most successful season, winning a majority of the games played. Games are played regularly twice each week with an occasional extra one. The team practised regularly and was thus able to make the most of the material of which it was formed. The games are greatly enjoyed by the patients and it is interesting to note how a depressed, self-centered patient will gradually develop an interest in them. It is believed that like other entertainments these games have a therapeutic value.

The regular fall field and track sports were held Saturday, September 19, and were probably the most interesting that have been held.

A tennis tournament has been held recently and was open to patients, physicians and attendants. The first and second prizes in singles were both won by patients.

The concrete reservoir which was made from the old ice pond has been completed and will be used for storage purposes, for emergencies.

Occupation continues to be actively employed as a means of treatment, and it is hoped that it may be still further extended by employing another teacher and by providing better working quarters than are possible at present.

A summary of the results on the Abderhalden reaction was published in the paper of Dr. Charles E. Simon in the *Journal of the American Medical Association*, Vol. LXII, p. 1701, May 30, 1914.

The Swift-Ellis treatment is continuing to be used with good results in some cases, though less gratifying in others.

MASSACHUSETTS.—Under a law which went into effect August 1, a reorganization of the State Board of Insanity was necessary. Accordingly appointments were made by the Governor and on August 10 the Board was organized as follows: President, Dr. Michael J. O'Mara, of Worcester; Executive Secretary, Dr. L. Vernon Briggs, of Boston; Third Member, Mr. Charles E. Ward, of Buckland.

—*Boston State Hospital, Boston.*—Pursuing the general plan of development heretofore described in the JOURNAL, the trustees have, since the organization of the hospital (1908), erected the following named buildings: Infirmary; addition to women's reception building; laundry and industrial building; building for stores, cold storage and bakery; central heating and lighting plant; women's custodial building; men's reception building; farm patients' cottage; industrial patients' cottages Nos. 1 and 2; dining-room building, West Group; attendants' home.

Plans and specifications are prepared for a second infirmary; a custodial building for men; two more industrial cottages; a second farm cottage; new barn, dairy and stable; kitchen and dining-room building, East Group; two nurses' homes; attendants' home No. 2. Appropriations for the above denied by the legislature of 1914, will be requested again next year. The farm has been extended by improvement of waste land and the whole property put into better condition.

Occupation of patients and parole, largely on open wards, are prominent features of the management. A social service department has been effectively active since July, 1913, and is growing in scope and vigor. The training school has affiliated with the City Hospital and added six months to the course of training, making it two and one-half years. The quality and stability of the attendant corps have been much improved by advance in pay for the higher grades and the provision of good living quarters, including rooms for married couples. Women nurses are employed in the men's reception, convalescent and infirmary wards—in the latter to the practical exclusion of male attendants.

The clinical and pathological laboratory is well equipped and in active service. The number of autopsies the past year was 63, representing 35.7 per cent of the deaths.

MICHIGAN.—*State Epileptic Farm Colony, Wahjemega.*—A building to accommodate 50 patients is nearly completed at a cost of $58,000. During the summer 25 patients have been cared for in a temporary building.

MISSOURI.—*Psychopathic Ward, St. Louis.*—A psychopathic ward has been established in connection with the juvenile court in order that the mental grade of juvenile offenders may be determined. The examinations will be made by Dr. Lister H. Tuholske and Dr. Henry J. Scherck.

—*State Hospital No. 3, Nevada.*—On September 1 there were 1219 patients in the hospital, or 660 men and 559 women. Of this number 918, or 555 men and 363 women, were employed in some manner.

During the year 40 acres were planted in broom corn and a fine crop has been harvested.

At the Vernon County Fair 17 premiums were taken with 17 entries of fancy work by patients, all but one having outside competition.

The industrial department which makes brooms, brushes and mattresses has shown an average profit over expenditure of $100 per month during the past year.

It is planned to have from 10 to 20 acres in small gardens for patients next season, and it is expected that it will thus be possible to occupy a number of patients whom it has hitherto been impossible to occupy.

Seventy-five per cent of the patients are occupied in some manner, or 84 per cent of the men and 65 per cent of the women. It is hoped that the number may be increased to 90 per cent. Several patients have been taught an occupation which they have carried on after discharge.

NEBRASKA.—*State Hospital, Norfolk.*—Little progress has been made, mostly in the way of organization. During the past year there was installed a medical stenographer, so that much better clinical records are made than formerly. In order to improve the supervision, or to supervise more closely, the position of Assistant Superintendent of Nurses has been created. Finding that excellent results followed medical staff meetings, the same method

has been applied to the physical workers, and for the past year there is a physical corps meeting immediately after supper, at which the heads of all the working departments meet in the steward's office, the work of the day is rapidly gone over, and the tasks for the following day are carefully outlined, while the bookkeeper records the work to be done by each department. This has proved of material benefit and has made possible increased and more effective work.

Several patients who had been kept in restraint for years were liberated and sent out of doors under the supervision of a special nurse, and made such a remarkable improvement that it was decided to try the same plan on a larger scale. With that end in view there has been provided a play ground for the ladies, fixed up with swings, hammocks, croquet grounds, indoor baseball games, etc. While this has not, thus far, resulted in as remarkable recoveries as the individual plan had produced, yet it has greatly improved the comfort and conduct of the patients.

The hospital boasts of a thorough hydro department, and there is just beginning the construction of a new hospital building for male patients.

NEW YORK.—By a new law any judge of a court of record is authorized to determine the mental condition of any person suspected of mental defect on the application of a relative, friend, parole or school officer, such application being accompanied by a certificate signed by two physicians. This simplifies the detention of feeble-minded persons in state institutions.

Governor Glynn has appointed a commission, consisting of Mr. Robert W. Hebberd, Dr. Max G. Schlapp, Dr. Charles L. Dana, Prof. Stephen P. Duggan and Mrs. Mary C. Dunphy, to investigate the question of the feeble-minded in the state, and to report with recommendations for legislative action before February 15, 1915. The commission serves without pay but an appropriation of $4000 has been made for its expenses.

—*State Inebriate Farm, Orange County.*—A tract of land for the establishment of this farm has been purchased in Orange County, including a portion of Wickham Lake, and work has begun on the institution which is to be on the cottage plan. It is intended to eventually care for 800 patients, but immediate provision will be made for but 250. It is also planned to provide for drug cases as all of the space available for this purpose in the city hospitals has been taken and there is danger of these drug cases crowding out other patients.

It is reported that the New York State Hospital Commission is considering the purchase of a site comprising 162 acres at Oakside, Long Island, for a new state hospital.

—*Mohansic State Hospital, Mohansic.*—This hospital being located on the watershed of New York City has had considerable difficulty in arranging for the disposal of its sewage in a manner satisfactory to the health authorities. This has finally been arranged and it is expected that the constructive work which had been delayed will soon be resumed. A bill passed the

legislature providing for the abandonment of the site and appropriating $200,000 for the purchase of a new one, but was vetoed by the Governor.

—*Binghamton State Hospital, Binghamton.*—This hospital is now proceeding with important construction which will improve its facilities for the care of patients, and increase its capacity to a considerable extent. A new electric lighting system is being installed to replace an obsolete system in use for more than 20 years. When this plant is completed the buildings and grounds about them will be better lighted than ever before. The cost of the electric equipment will be $60,000. General repairs to the steam heating system are in progress; when these are completed they will include an additional 500 horse power steam boiler and a new smoke-stack, at a cost of about $22,000. Plans and specifications are nearly ready for the erection of the new building for women patients of the chronic class, mentioned in the *Summary* a year ago. An appropriation of $225,000 for this building is now available. The building will accommodate about 300 patients and employees to care for them.

During the past six months a number of more or less important improvements have been made throughout the hospital, among these may be mentioned: two rustic buildings at the summer camp, known as Pine Camp, to replace tents used by patients; an addition to the blacksmith shop; "hung gutters" on the industrial building to replace box gutters; painting and sidewalks.

The courses of study prescribed in the training school for nurses were completed by the pupil nurses in May, when the school year ended. The graduation exercises were held in the hospital assembly hall on September 2, 1914.

The twenty-third annual field day exercises were held September 8, 1914. It is a somewhat notable fact that throughout the long period during which these field days have been an annual feature of hospital life, it has never been necessary to postpone them on account of bad weather. Moving picture entertainments are held in the assembly hall every Wednesday evening and are greatly enjoyed by patients and employees, and on Friday evenings dances are held for the patients. During the summer months band concerts were given on the hospital lawn, usually on Friday evenings, and on Saturday afternoons baseball games furnished diversion for the large number of patients who are allowed parole of the grounds.

As has been customary for several years past, the summer camp known as "Pine Camp," on the bank of the Susquehanna River about two miles from the main hospital buildings, has accommodated about 30 patients, each of whom has remained at the camp about two weeks; besides these camp residents, a small passenger wagon has conveyed half a dozen patients with one or two nurses from the acute hospital to the camp for a day's outing, nearly every day in pleasant weather. Women patients occupied the camp from June until the middle of September; since that time men patients have enjoyed its privileges.

October 1 a new impetus was given to industrial occupations and re-education of patients by the employment of a teacher of physical training, etc. Efforts are now being made to arrange for the employment of a "social worker" whose time will be fully devoted to the interests of patients who have been discharged from the hospital as "recovered" or "improved."

—*Bloomingdale Hospital, White Plains.*—The space, facilities and activities of both the men's and women's occupation departments at Bloomingdale Hospital have been lately increased and the value of this work as an active therapeutic measure made more effective. Mr. R. E. Blithe, who was in charge of the men's department for two years, resigned to accept a position at Girard College, Philadelphia. He is succeeded by Mr. J. H. Vertrees, B. A., a graduate of the Teachers' College, Columbia University.

Miss Rye Morley, formerly Superintendent of Nurses at Mt. Sinai Hospital, New York City, has been appointed to the position of housekeeper.

Another convalescent hall has been made necessary by the growing demands and activities of the women's service.

A new barber shop and smoking-room for the men is nearing completion.

Affiliations have been made between the Bloomingdale Training School for Nurses and the Mt. Sinai Hospital Training School for Nurses which permits members of the senior class at Mt. Sinai to take as one of their electives a course in mental nursing at Bloomingdale Hospital; two have taken the course and 35 others have applied.

Abderhalden studies have been undertaken and are being pursued on a series of functional cases.

CHANGES IN THE MEDICAL STAFF.

Durham, Dr. Albert, Second Assistant Physician, resigned July 1, 1914. He had been in the service since 1892.

Amsden, Dr. George S., Assistant Physician, promoted to the position of Second Assistant Physician July 1, 1914.

Frazee, Dr. M. Louise, appointed Medical Interne July 1, 1914.

Tower, Dr. Charles, appointed Medical Interne September 14, 1914.

—*Buffalo State Hospital, Buffalo.*—During the past six months there have been erected and completed at this hospital an ice manufacturing plant of three tons daily capacity; a meat refrigerating room and cold-storage room for food products generally, an old ice house being remodelled for the purpose. The entire cost was about $33,000, including equipment.

In the early part of August there was completed and occupied, a pavilion for men suffering from tuberculosis. It is built on the bungalow plan and to accommodate 20 patients, being constructed with a large day room and dormitory, six single rooms, a special diet kitchen and a veranda on three sides of the day room. A sun room occupies one end of the day room. The building faces south and is capable of easy expansion and enlargement. The cost was about $10,600.

Twelve verandas are being erected on the four three-story ward buildings adjoining the administration building. The beneficial effects of constant fresh-air life, made possible for the patients of other wards by verandas, induced the Hospital Commission to provide funds to nearly complete the hospital equipment in this regard. The cost is $10,000.

—*Craig Colony for Epileptics, Sonyea.*—Inasmuch as no new appropriations were made by the legislature of 1914 except a small one for the restoration of the colony laundry, which was damaged by fire in May, 1913, no new work of importance can be carried on during the year to come. Under old appropriations the filter beds of the sewage disposal plant are being reconstructed, a water softening and filtering plant is being installed, a new boiler house and smoke-stack is being erected and the basement of the dairy barn is being reconstructed to provide space for 100 cows. Four cottages for employees, work on which was begun last spring and held in abeyance for several months, owing to a veto of the fund under which they were being built, will be recommenced soon with a new fund later appropriated. Unfortunately a fund for the erection of a cold-storage plant was vetoed.

—*Hudson River State Hospital, Poughkeepsie.*—An out-door clinic, maintained in connection with the Poughkeepsie Board of Health, was established on June 6, 1914. One evening each week a physician from this hospital is in attendance prepared to give advice concerning nervous and mental cases. The physicians in Poughkeepsie sometimes attend, have sent cases and call for consultation concerning cases not present. The Dutchess County Agent for Dependent Children frequently brings children for Binet examinations and the clinic has examined feeble-minded individuals for commitment to various custodial institutions. Some difficult cases have been referred by police magistrates and the Bureau of Associated Charities finds the clinic a convenience. Several obvious psychogenic cases have appeared in a wrong attitude. One woman greatly in need of psychoanalysis declined to give any information about herself and departed, withholding her name.

The second year of the occupancy of the State Tramp Farm at Stormville, 20 miles distant, has been successful. Several years ago New York State acquired a site in the eastern part of Dutchess County but has not begun to build, and this hospital has the use of the farm land. A small group of patients has been sent there and farming operations have been conducted on a scale satisfactory to the hospital needs. A potato yield of 220 bushels to the acre together with hay, corn and other produce amply justifies the difficulties of long range management.

The trouble with the water-supply has been adjusted and there is now no uneasiness on that score. Typhoid fever has been eliminated and the general health of the patients in the hospital is in a satisfactory state. There was one case of scarlet fever and one of measles, both clearly intro-

duced from outside the hospital. A sanitary survey has been made by the authority of Dr. Hermann Biggs, the State Commissioner of Health.

Preparations for an interhospital conference are in progress and plans maturing. It is hoped to have the meeting within a few months.

Much needed repairs have been made in the cottage department and work is about to be started on the alterations to the plumbing in the nurses' house.

A male attendant witnessed the final stage of an assault on a patient by another attendant. Proof in such cases is obtained with difficulty, but this case led to the arrest of the assaulting attendant and his subsequent conviction. Such an occurrence as this ought to have a salutary effect.

—*Kings Park State Hospital, Kings Park, Long Island.*—A new system of water heating is being installed, whereby all the hot water supplied to the various departments will be heated at a central plant instead of as now by means of exhaust steam in individual boilers. Although the water will not be as hot as formerly, probably delivered to the wards at not hotter than 120° F., it will serve the main purpose for which it is intended, namely, bathing.

Two additional wells, about 500 feet in depth, are to be drilled to increase the supply of water.

A number of the wooden cottages are being repaired, the most important repairs being relaying floors, replastering walls and putting in steel ceilings. In this way these cottages will be made fairly habitable for a number of years yet to come, and the hospital will be better able to take care of its increasing population than it would if the cottages were torn down and reliance were placed upon prompt erection of ample new buildings.

Four electrical elevators are to be installed in groups II and III for delivering the food from the kitchens to the wards.

$80,000 has some time ago been made available by legislative appropriation for the construction of new buildings at this hospital, but the plan now proposed is to utilize this money in the erection of solariums and other extensions to existing buildings rather than in the erection of new buildings, as it is obvious that the money will thus go farther in increasing the capacity of the hospital and that a saving will further be made in such matters as water, steam, sewage, electrical connections, kitchen equipments, etc.

A new telephone system is gradually being installed, the main feature of which is its central energizing equipment, deriving power according to its needs either from a motor-generator set or from a storage battery.

There is now nearly completed the installation of the Cryer Vacuum System with special valves in connection with the steam heating equipment. This system is expected to effect a considerable economy in the use of coal, the valves being so arranged at the outlet to each radiator as to be almost entirely shut at all times except when the water of condensation in any quantity accumulates in the pipes, when the valves open to allow

the water to escape, and then automatically become almost entirely shut off again.

Owing to the failure on the part of the legislature to reappropriate in the usual way the full amount of the board moneys for the use of the state hospitals, there was in the latter part of May a shortage of nearly $20,000 to be made up by savings during the remainder of the fiscal year, that is to say, during the four months from June to September, inclusive. This saving was accomplished mainly by withdrawing all commutation for board and room, by suspending entirely all amusements and many of the occupations, by abolishing five positions on the medical staff and a number on the force of attendants and other employees. It was then hoped that with the beginning of the new fiscal year—October 1—the work thus suspended would be resumed and the positions which had been abolished would be restored, but the legislative appropriations for the coming fiscal year, as published later, have been so small that the prospect is rather that further retrenchments will be necessary unless additional appropriations should be afforded by the legislature during its session next winter.

—*Rochester State Hospital, Rochester.*—On May 14, 50 women patients were transferred from the Central Islip State Hospital to relieve the excessive crowding at that institution.

The new nurses' home for this hospital is fully completed and is now being occupied.

The repairs and improvements at the Lake Farm annex, consisting of a complete water and sewage system, with enlargement to the buildings and addition of electric lights, is completed and has added very much to the success of the farm enterprise.

—*Willard State Hospital, Willard.*—The hospital has been free during the past six months from epidemic disease. Twelve pupils in the training school for nurses passed the final examinations and graduated October 1.

Two concrete silos have been erected at the new dairy barn. The dock which was badly damaged last winter and spring by high water and severe gales is being rebuilt of concrete with new sheet piling.

On July 15 and 16 the State Hospital Commission held an investigation into the charges of Federal and State Inspectors that certain articles of food unfit for use were being supplied for the patients. The Attorney-General conducted the investigation for the Commission, attorneys also being present representing the Department of Efficiency and Economy, and the hospital. The reports of the inspectors were not substantiated.

The appropriation for maintenance of the hospital made at the last session of the legislature and in effect October 1 is very much below the actual needs of the institution. The amount appropriated for wages is $24,000 short on the basis of the number of employees in the service of the hospital at the present time, but Governor Glynn has intimated that present standards should be maintained and that the next legislature will be requested to make an additional appropriation for this purpose.

NORTH CAROLINA.—*School for Feeble-Minded, Kinston.*—This school was opened July 1, under the directorship of Dr. C. Banks McNairy. It is planned to open a psychologic clinic in connection with the school where the actual mental age of children may be determined and advice may be given for the best means of their development.

—*State Hospital, Goldsboro.*—The number of patients enrolled is 906. A new building for a laundry has been completed and occupied. Accommodations for 200 additional patients have been provided by the remodelling of space formerly occupied by the laundry and additions to other buildings. Since December 1, 1913, there have been under treatment 66 cases of pellagra with a mortality of 22. This is a slight increase over the same period of last year.

NORTH DAKOTA.—*State Hospital for the Insane, Jamestown.*—This institution is said to be much overcrowded, having 316 patients more than its normal capacity. It is estimated that a new ward to relieve this congestion will cost $500,000.

OHIO.—The State Board of Administration has gathered statistics which show that the state institutions cannot accommodate all the insane and criminals, there being nearly 4000 names on the county waiting lists. The necessity for additional hospital accommodations will be placed before the legislature.

—*Massillon State Hospital, Masillon.*—During July there were 30 cases of diphtheria, the source of which was traced to the milk supply. It began as mild sore throat and the diphtheria developed rather abruptly among both patients and attendants. There were four deaths. All patients and suspects were isolated under the charge of Dr. Paul J. Alspaugh, Senior Assistant Physician.

—*Columbus State Hospital, Columbus.*—During the past six months there were completed a new storeroom and bake shop, which are considered the most up-to-date of those of any institution in the state at the present time. In addition there was completed over a mile of cement walks encircling the buildings which add to the comfort and convenience of the patients in taking their regular exercise.

OKLAHOMA.—*Eastern Oklahoma State Hospital, Vinita.*—New buildings to accommodate 300 patients have been completed at this hospital.

PENNSYLVANIA.—*Philadelphia Hospital, Philadelphia.*—The last legislature appropriated $10,000 for the establishment of a psychopathic ward. Accommodations will be provided for 140 patients and it is believed that many cases can be cared for and sent home under supervision of a social worker, rather than become inmates of a state hospital. A case which re-

quires prolonged hospital care will be transferred to a state hospital after 30 days' observation.

—*State Hospital for Insane, Norristown, Department for Men.*—The new hydrotherapeutic plant is now in active service. Methods are being elaborated for the reeducation of cases of dementia præcox.

SOUTH DAKOTA.—*Asylum for Insane Indians, Canton.*—The new hospital building, with a capacity of 48 beds, will shortly be completed and ready for occupancy. It is planned to dig a new well for the increase of the water-supply in the near future.

TEXAS.—*State Epileptic Colony, Abilene.*—Two buildings are under construction. These are two stories in height, with a basement, and are located in the southwest corner of the colony grounds.

—*Southwestern Insane Asylum, San Antonio.*—There has just been completed at this institution a hospital for women, with a capacity of 120 beds. This building has its own kitchen, etc., and is to be used for the reception and treatment of acute cases. Particular attention is given to diet, diversion, etc. The building is fireproof, of brick and reinforced concrete construction and has over 600 feet of broad galleries. There are a number of single rooms and two large dormitories. The patients are encouraged to occupy their time in basket making, needle work, reading, etc.

There are under construction additions to the main buildings, two wings which will accommodate about 600 cases. These buildings are also fireproof and floored with tile throughout, except in single rooms which will have wood flooring.

Another building is under construction, the lower story of which will be used for the laundry. The second story will be for employees' quarters. These rooms will be modern in every respect. Each room will have its own toilet and bath room. This building is also fireproof and will have a capacity of about 60 beds.

WEST VIRGINIA.—*Second Hospital for Insane, Spencer.*—The past six months have been the busiest in the history of the institution, owing to the great number of improvements, all of which were made by the regular force, that is, no contracts were let.

For diversional occupation there has been added basketry and raffia work. A machine was installed for making hosiery for the patients. The care of the congregate dining-room has been transferred from the male to the female department.

Over 5000 feet of 8-inch pipe line was laid connecting the dam on Goff's Run with a lake. A filtration system was installed at the dam.

A concrete sewer 2 x 3 feet, 500 feet long, was built through a gully and the ground leveled, thereby recovering over two acres of land.

A brick and concrete horse barn, carriage shed and auto garage combined was built.

The shores of the lake which were constructed last year were landscaped preparatory to sodding.

A concrete roadway 2000 feet long is under construction, connecting the administration building with the county road. This gives a continuous paved roadway to the railroad station.

Several concrete walks were laid. Concrete floors were laid in the basements under the female wards.

All overhead electric wiring was removed and placed in conduits. The old style electric arc lights were replaced by boulevard and park lamps.

The exterior metal and wood work of the ward buildings was painted. A force of painters is kept continuously at work upon the interior of the building.

The old horse barn is being remodelled and made into shops for upholstery and wood working machinery. A new gas engine was installed for operating the wood working machinery.

Many minor improvements were made during the period.

WISCONSIN.—*Douglas County Tuberculosis Sanitarium.*—This sanitarium is now being used exclusively for insane tuberculous patients.

CANADA.—*Northern Saskatchewan Hospital for Insane, Battleford.*—This hospital has been completed at a cost of $1,250,000. It is well situated on beautiful grounds and has a farm of 2000 acres. Accommodations are provided for 600 patients and a staff of 55. Patients from the older institution at Brandon have been removed here.

Appointments, Resignations, Etc.

BARRY, DR. R. GRANT, Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., resigned May 31, 1914.

BATTEY, DR. PERCY B., appointed Assistant Physician at Independence State Hospital at Independence, Iowa.

BAXTER, DR. ALICE H., Assistant Physician at St. Lawrence State Hospital at Ogdensburg, N. Y., appointed Assistant Physician at Pontiac State Hospital at Pontiac, Mich., July, 1914.

BEACH, DR. LENA A., Woman Physician at Cherokee State Hospital at Cherokee, Iowa, resigned June 1, 1914.

BEALE, DR. P. L., appointed Resident Dentist at Northern Hospital for the Insane at Logansport, Indiana.

BRINGMAN, DR. M. S., Assistant Physician at Norwich State Hospital at Norwich, Conn., appointed Assistant Physician at Fergus Falls State Hospital at Fergus Falls, Minn.

BRUSH, DR. NATHANIEL HAWLEY, appointed Medical Interne at Henry Phipps Psychiatric Clinic at Baltimore, Md., September 1, 1914.

BULLOCK, DR. DAVID WILLIAM, a member of the Board of Directors of the Eastern Hospital for the Insane at Goldsboro, N. C., died at his home in Wilmington from typhoid fever, aged 60.

BYNON, DR. MARGARET H., Assistant Physician at Pontiac State Hospital at Pontiac, Mich., resigned June, 1914.

CAMPBELL, DR. W. E., Assistant Physician at Western Kentucky Hospital for the Insane at Hopkinsville, transferred to Eastern Kentucky Hospital for the Insane at Lexington.

CANAVAN, DR. MYRTELLE M., Pathologist at Boston State Hospital at Boston, Mass,, appointed Assistant Pathologist to Massachusetts State Board of Insanity July 1, 1914, with headquarters at the Psychopathic Hospital, Boston.

CHANNING, DR. WALTER, Chairman of Board of Trustees of Boston State Hospital at Boston, Mass., resigned April 1, 1914.

COCKE, DR. EDWIN W., appointed Assistant Superintendent of West Tennessee Hospital for the Insane at Bolivar.

COPPINGER, DR. SARAH E., appointed Trustee of Foxboro State Hospital at Foxboro, Mass.

CRAIGHEAD, DR. NANCY B., Woman Physician at Craig Colony for Epileptics at Sonyea, N. Y., resigned April 1, 1914.

DAILEY, DR. O. P., First Assistant Physician at East Louisiana Hospital for the Insane at Jackson, resigned.

DEARING, DR. WILLIAM HENRY, formerly Superintendent of the Nebraska Hospital for the Insane at Lincoln, of the Norfolk State Hospital at Norfolk, Nebr., and of the State Institution for the Feeble-Minded at Beatrice, Nebr., died at his home in Lushton, Nebr., aged 54.

DEMING, DR. RALPH, Senior Assistant Physician at Fergus Falls State Hospital at Fergus Falls, Minn., resigned to enter private practice at Mercer, N. Dak.

DONAHUE, DR. J. LEO, appointed Assistant Physician at Department for the Insane at Philadelphia Hospital (Blockley), Pa.

DURGIN, DR. DELMAR, Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., resigned May 31, 1914.

EATON, DR. RICHARD G., Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., resigned May 31, 1914.

FELDSTEIN, DR. BERNARD, Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., resigned May 31, 1914.

FELL, DR. E. W., Assistant Physician at Elgin State Hospital at Elgin, Ill., appointed Assistant Physician at Ransom Sanitarium at Rockford, Ill.

FLOURNOY, DR. H., Medical Interne at Henry Phipps Psychiatric Clinic at Baltimore, Md., has returned to Switzerland as a reservist.

FRENCH, DR. MORRIS STROUD, formerly Superintendent of Alleghany County Insane Hospital at Woodville, Pa., died in his room in Philadelphia, April 26, 1914, from the effects of a gunshot wound of the head, believed to have been self-inflicted with suicidal intent, aged 65.

GARDNER, DR. WILLIAM E., Superintendent of Central Kentucky Hospital for the Insane at Lakeland, resigned.

GODDARD, DR. ROY K., Assistant Physician at Supply State Hospital at Supply, Okla., promoted to be Assistant Superintendent.

HAVILAND, DR. C. F., Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., absent on leave since May.

HICKSON, DR. WILLIAM J., appointed Chief of the Psychopathic Laboratory at Chicago, Ill.

HILL, DR. CHARLES G., Physician in Chief at Mount Hope Retreat at Baltimore, Md., who has been surgeon to Cavalry Troop A, Maryland National Guard, since its organization sixteen years ago, has recently resigned from the troop.

HOLT, DR. E. K., appointed Assistant Physician in Department for Men at Northern Hospital for the Insane at Logansport, Ind.

HOPKINS, MRS. WOOLSEY, appointed Trustee of Boston State Hospital at Boston, Mass.

ISHAM, DR. MARY K., Assistant Physician at Columbus State Hospital at Columbus, Ohio, granted leave of absence for one year from October 1, 1914, for special study in psychology.

JARED, DR. V. M., Assistant Physician at Fergus Falls State Hospital at Fergus Falls, Minn., resigned September 1, 1914, to accept a position on the faculty of the Hahnemann Medical College.

KEYSER, DR. TEDROW S., Medical Interne at Henry Phipps Psychiatric Clinic at Baltimore, Md., appointed to a position at the Neurological Institute at New York.

KILBOURNE, DR. ARTHUR F., Superintendent of Rochester State Hospital at Rochester, N. Y., was tendered a reception by the staff and employees of the hospital on June 11, 1914, it being the twenty-fifth anniversary of his superintendency. He was presented a gold watch, chain and masonic charm.

KOCHER, DR. OLIVE HUGHES, Assistant Physician at Elgin State Hospital at Elgin, Ill., transferred to Watertown State Hospital at Watertown, Ill.

LEVITAN, DR. J., Assistant Physician at Peoria State Hospital at Peoria, Ill., transferred to Elgin State Hospital at Elgin, Ill.

LIST, DR. WALTER E., Assistant Superintendent at Longview Sanitarium at Cincinnati, Ohio, appointed to a similar position in the Cincinnati City Hospital.

LOWELL, MRS. GUY, Trustee of Boston State Hospital at Boston, Mass., resigned April 1, 1914.

MCKINNISS, DR. C. R., Superintendent of Department for Men of State Hospital at Norristown, Pa., appointed Superintendent of Pittsburgh City Home and Hospitals at Boyce, Pa., August 1, 1914.

MELLEN, DR. SAMUEL F., Assistant Physician at Hudson River State Hospital at Poughkeepsie, N. Y., died July 15, 1914, three days after an operation for appendicitis. He had been in the State Service for twenty years.

MENG, DR. W. L., appointed Assistant Physician at Fergus Falls State Hospital at Fergus Falls, Minn., September 1, 1914.

MILLER, DR. S. METZ, appointed Superintendent of Department for Men of State Hospital at Norristown, Pa.

MOHER, DR. THOS. J., Medical Superintendent of Hospital for the Insane at Cobourg, Ont., died February 24, 1914, aged 52.

MOORE, DR. L. O. W., Third Assistant Physician at Mendocino State Hospital at Talmage, Cal., has been obliged to resign on account of ill health and has been advised to take rest and treatment for at least a year.

MORTER, DR. ROY A., appointed Assistant Physician at Michigan State Hospital at Kalamazoo, Mich.

MURDOCH, DR. CORA B., appointed Assistant Physician in the Department for Women at Northern Hospital for the Insane at Logansport, Ind.

MURPHY, DR. WM. A., appointed Clinical Director and in charge of the Pathological Laboratory at State Hospital at Goldsboro, N. C.

NEAFIE, DR. CHARLES A., Assistant Physician at Pontiac State Hospital at Pontiac, Mich., resigned July, 1914.

NEELY, DR. JAMES J., Superintendent of West Tennessee Hospital for the Insane at Bolivar, resigned.

PATTERSON, DR. W. L., Assistant Physician at Fergus Falls State Hospital at Fergus Falls, Minn., promoted to be Senior Assistant Physician.

PEASE, DR. EDMUND M., Assistant Physician at Kalamazoo State Hospital at Kalamazoo, Mich., appointed Assistant Physician at Boston State Hospital at Boston, Mass., May 1, 1914.

PEDDICORD, DR. FRANK L., First Assistant Physician at Central Kentucky State Hospital at Lakeland, promoted to be Superintendent May 1, 1914.

PETTIJOHN, DR. ABRA C., Superintendent of State Hospital No. 2 at St. Joseph, Mo., resigned June 4, 1914. He was presented with a diamond stick pin by the officers and employees.

PIERSON, DR. HELENA B., Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., resigned May 31, 1914.

PRIDDY, DR. A. S., Superintendent of State Epileptic Colony at Lynchburg, Va., elected President of National Association for the Care, Study and Treatment of Epilepsy.

REID, DR. E. C., Assistant Physician at Mendocino State Hospital at Talmage, Cal., appointed After Care Physician to the State Lunacy Commission June 5, 1914.

RENDER, DR. WILLIAM E., Assistant Physician at Eastern Kentucky Hospital for the Insane at Lexington, appointed First Assistant Physician at Central Kentucky Hospital for the Insane at Lakeland.

REYE, DR. HEINRICH, formerly of State Psychopathic Hospital at Ann Arbor, Mich. appointed Pathologist and Director of Clinical Psychiatry at Pontiac State Hospital at Pontiac, Mich., July, 1914.

RICHARDS, DR. CYRIL G., Assistant Physician at Boston State Hospital at Boston, Mass., appointed Resident Physician at Long Island Hospital at Boston, March 1, 1914.

RITCHEY, DR. ROMNEY M., Assistant Physician at Anna State Hospital at Anna, Ill., transferred to Elgin State Hospital at Elgin, Ill.

RUSSELL, DR. ROSE A., Fourth Assistant Physician at Cherokee State Hospital at Cherokee, Iowa, promoted to be Women Physician June 1, 1914.

SANDERS, DR. H. G., appointed Assistant Physician at Western Kentucky Hospital for the Insane at Hopkinsville.

SAUTTER, DR. CARL M., Assistant Physician for three years at Men's Department of Northern Hospital for the Insane at Logansport, Ind., resigned September 1, 1914, to take up special post gradute work in New York.

SCHREINER, DR. MABEL S., appointed Fourth Assistant Physician at Cherokee State Hospital at Cherokee, Iowa.

SQUIRES, DR. CHARLES D., appointed Medical Interne at Willard State Hospital at Willard, N. Y., June 1, 1914.

STATLER, DR. HERBERT OTTO, formerly Assistant Physician at Michigan State Hospital at Kalamazoo, died suddenly at his home March 29, 1914, from heart disease, aged 46.

STEVENS, DR. HERMAN C., appointed Examining Alienist at Cook County Institution at Oak Forest, Ill.

STEWART, DR. ROBERT, Assistant Superintendent of Mt. Pleasant State Hospital at Mt. Pleasant, Iowa, appointed Assistant Physician at a sanitarium at Wauwatosa, Wis.

STEWART, DR. WALTER, appointed Superintendent of West Tennessee Hospital for the Insane at Bolivar.

STONE, DR. ESTHER A. HART, Assistant Physician at Watertown State Hospital at Watertown, Ill., transferred to State Home for Girls at Geneva, Ill.

TERBST, DR. MAX, elected a member of the Board of Managers of the Mohansic State Hospital at Mohansic, N. Y.,

THOMSON, DR. E. MABEL, appointed Woman Physician at Craig Colony for Epileptics at Sonyea, N. Y., June 1, 1914.

THOMPSON, DR. GEO. R., appointed Superintendent of State Hospital No. 2 at St. Joseph, Mo.

TOWNE, DR. CLARA HARRISON, Psychologist at Lincoln State School and Colony at Lincoln, Ill., resigned.

TUTTLE, DR. GEORGE THOMAS, Superintendent of McLean Hospital at Waverley, Mass., was married to Miss Celeste Weed on May 14, 1914, at Dorchester, Mass.

VOLDENG, DR. M. NELSON, Superintendent of Cherokee State Hospital at Cherokee, Iowa, appointed Superintendent of Iowa Epileptic Colony.

WATERMAN, DR. CHESTER, Senior Assistant Physician at Willard State Hospital at Willard, N. Y., resigned October 1, 1914, to enter private practice.

WHITESIDE, DR. MARGARET L. E., appointed Second Assistant Physician at State Hospital for the Insane at Columbus, S. C.

WIDDOP, DR. MARY L., Assistant Physician in the Department for Women at Northern Hospital for the Insane at Logansport, Ind., died May 26, 1914, from acute cardiac dilatation.

WILBOR, DR. LEON, Assistant Physician at Rochester State Hospital at Rochester, N. Y., resigned August 1, 1914, to enter private practice.

WOLFE, DR. MARY M., appointed Superintendent of State Institution for the Care of Feeble-Minded Women near Hartleton, Pa.

YOUNG, DR. HUGH HAMPTON, President of the Lunacy Commission of Maryland, reappointed.